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# MUNICIPAL JOURNAL AND ENGINEER



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## Sewering Greatest New York

SEWERAGE difficulties are looming up big in greatest New York just now. On December 7 the representatives of several influential organizations of the City of New York protested before State Engineer Van Alstyne and Health Commissioner Porter against the proposed \$2,000,000 Bronx valley sewer, designed to discharge the sewage of Westchester County towns into the Hudson river at Yonkers. The danger in this case is confined to the possible nuisance which may be caused and to the silting up of the harbor; of both of which there is already ominous evidence. A large part of the harbor has already been covered with several feet of sewage silt from the sewers of New York City. Manhattan and a large section of Brooklyn discharge into the harbor all the

storm water and street washings and the sewage from more than three million people. The proposed sewer above referred to would discharge the house sewage only, and that after a flow of several miles, from say one-sixth of this number. This may, it is true, be the last straw to the burden already placed upon the "self-purification" and oxidizing capacity of the river and harbor; but has Manhattan obtained by pre-emption a prior and sole right to pollute? It seems to be always a case of "the man higher up." St. Louis pollutes the Mississippi, but sues Chicago for doing the same; Philadelphia and Trenton entertain the same idea of rights without accompanying obligations. And now New York, without even a thought of ceasing her own pollution of the harbor, endeavors to debar others from the same privilege. May it not become necessary to recognize the mutual interests of all concerned and organize Greatest New York Sewerage District, similar to Boston's Metropolitan District, to embrace northeastern New Jersey as well as Westchester County, and work out a comprehensive scheme for the entire area? The problems are one; the solution should be one also.

## Specifications for Refuse Disposal

IN the article on "Refuse Disposal for Staten Island," which appeared in our December 5 number, was given probably the most complete description of household refuse which has been published in this country, covering as it does a full year, and giving both the weight and volume of each class of refuse, and also its composition and calorific value. This test is the more notable in that it is given for the information of bidders on the project of incinerating it. Another unusual feature of this invitation to bidders is the table of costs of labor and material at the location of the plant. This table should be of especial value in this case because of the probability that many of the bidders will be from outside the United States. In fact, although the bidders may be residents of the United states, the style of plant must be foreign—probably English—since no American incinerator has been used in three installations for producing steam which is utilized for municipal purposes—a requirement of the specifications. There are very few types of destructors in that country which fill this requirement. It appears to us that this requirement is unnecessarily exacting, and that more competition, an opportunity for American contractors, and a greater benefit to the art of refuse disposal in this country would have resulted from a reliance upon the guarantees alone, without the requirement of extensive prior use. The guarantee demanded is excellent, and should result in a most efficient plant if enforced.

## NEW YORK'S DISREPUTABLE STREETS

### Divided Responsibility for and Control of Street Openings —Streets Used for Storage of Materials—Mayor Appoints Commission

THE Merchants' Association of New York City in October appealed to Mayor McClellan to take some steps toward remedying the intolerable conditions existing in the streets of that city. As they most temperately state:

"It is a fact too obvious to admit of dispute, that the disrepair of our street pavements is so general and persistent as to cast great discredit upon the city, to impose a heavy burden of damage and inconvenience upon the business community, to entail great discomfort upon all citizens and to subject the public treasury to heavy loss, through judgments for damages. It is also indisputable that the streets are constantly and unduly obstructed by building operations. This condition is due to: (1) Failure promptly to repair the defects due to traffic. (2) Inadequate control of restoration of openings in pavements made by: (a) The Water Department; (b) the Bureau of Sewers; (c) Gas, Electric Lighting, Telephone, and other Public Service Corporations; (d) plumbers and others. (3) Insufficient restriction of the use of streets for the storage of building material and for other purposes incident to the construction of buildings.

"Great numbers of defects are due to the wear of traffic. These are seldom promptly repaired, and are frequently neglected for months, despite the fact that contracts for new pavements obligate the contractor constantly to maintain the pavements in serviceable condition for a period of five to ten years; the cost of such repairs being included in the original contract price, and thus being paid by the city whether the repairs are made or not. In practice, these maintenance contracts are not effectively enforced, and the contractors habitually neglect properly to comply with their obligations.

"In the case of openings for sewers, water pipes, etc., the replacement of pavements is subject to conflicting jurisdiction and divided responsibility on the part of several co-ordinate branches of the city government.

"The Bureau of Highways is legally charged with the restoration of pavements. In practice, the Water Department and the Bureau of Sewers prescribe the form of contract under which pavements removed by them shall be restored, and the terms are such as to preclude the enforcement of promptitude either by the branch in which the work originates, or by the Bureau of Highways.

"In the case of openings made by public service corporations, plumbers, and others, repaving is done under general contracts made by the city. The provisions of these contracts are not adapted to enforce promptitude. In other respects also, the administrative methods are defective, and much unnecessary delay in repaving results.

"The occupation of the streets for building operations is frequently accompanied by extensive destruction of the

pavements, not only immediately adjacent to the premises where building is in progress, but often extending across the entire street. This condition of disrepair is commonly maintained during a long period of time. Moreover, the occupation of the streets by building materials for building operations is usually unduly protracted and often abused, so that the public is needlessly deprived of the use of the streets, and subjected to the danger and inconvenience of long continued obstruction.

"Stated broadly, the administrative conditions governing the branches of the public service to which we allude involve: (1) Conflicting jurisdiction; (2) divided responsibility; (3) defective methods. No one will deny the need for better administration of our streets. In our opinion, that result can only be reached by abolishing conflicting jurisdiction, concentrating responsibility, and reorganizing administrative machinery where defective."

In response to this appeal the Mayor has appointed as a committee John C. Eames, Chairman of Committee on City Conditions of the Merchants' Association; Nelson P. Lewis, Chief Engineer of the Board of Estimate and Apportionment; Wm. C. Redfield, ex-Commissioner of Public Works of Brooklyn; Samuel Whinery, Consulting Engineer; and Walter C. Kerr, President of Westinghouse, Church, Kerr and Company. This committee is instructed to investigate the subject and devise a comprehensive plan for concentrating the responsibility for the administration of the city streets under one central head.

As an indication of the need for some drastic action, Mr. Eames reported that in July last 3,006 defects demanding repair were counted in the asphalt pavements of the city.

### Effect of Chicago Drainage Canal

A COMPARISON has been made by the Department of Health of Chicago of certain mortality statistics for the two periods of eighty-two months preceding the opening of the drainage canal (January 1, 1900) and the same length of time succeeding it. From these it appears that the typhoid death rate was 36.0 per cent. less during the second period than during the first, the death rate from all diarrheal diseases 37.0 per cent. less, and the rate from all impure-water diseases 37.6 per cent. less. The periods are so long, and the figures so uniformly and decidedly favorable as to leave little doubt of the beneficial effect of the canal. In actual numbers, the total number of deaths from typhoid was 636 less during the second period than during the first, from diarrheal diseases 3,723 less, and from all impure-water diseases 4,359 less, although the average population during the second period was 462,799 greater than during the first. Had the rate of death from all impure-water diseases remained the same, the number during the second period would have been 11,624 greater than it was. If we assume that but half of this disease was due to the canal, that each life is worth \$5,000, and that for each death there were ten cases of sickness, in each of which the average cost and loss of labor amounted to \$100, then a saving has already been effected of \$34,872,000 from this effect alone.



## GOVERNMENT HYDROGRAPHIC WORK

### Value of Investigations Made by Geological Survey—Reduction in Appropriation Causes Intermission in Certain of These

THE hydrographic work of the United States Geological Survey has for some years included gauging the streets and determining the water supply of the United States, investigating underground currents and artesian wells, and the preparation of reports upon the best methods of utilizing the water resources. This work has previously been carried on under an annual appropriation by Congress, and since 1902 the amount has been \$200,000, but the action of the last Congress reduced the appropriation to \$150,000.

The work comprises general investigations of natural water resources, including the measurement of stream-flow for water-supply and water-power purposes, the determination of the occurrence, quality and availability of ground waters, and the study of pollution of both ground and surface waters by industrial and household wastes, the effect of these wastes upon streams, and the best methods of rendering them innocuous. The resulting reports have been of great value to waterworks men and to cities, towns, and industrial plants seeking water supplies. Such hydrographic investigations, the results of which will promote the fullest utilization of our water resources, should properly be undertaken by the Federal government, and cannot be carried on to the best advantage by private parties nor by the separate States. Investigations by private parties are almost always made specially to obtain information that will advertise or aid in the sale of some particular property. State governments attempting such work would be confronted by the fact that important surface-water supplies are found in interstate rivers, and that ground-water supplies are derived from strata that extend across State boundaries; so that in order to procure requisite data it is necessary to carry investigations over large areas, some of which involve two or more States. The Federal investigations are non-partisan, and their results can be accepted in judicial proceedings as *prima facie* evidence. Moreover, and this is particularly true of the stream-flow measurements, accurate and reliable information can be obtained only by extending the observations over periods of years, and the work should therefore be removed from the influence of changes of administration and local prejudices which are frequently so harmful to investigations of this character.

In view of these considerations, it is extremely unfortunate that a reduction in appropriation was made by the last Congress, since this necessitates a suspension of certain investigations, thus impairing their value because breaking their continuity. The longer such break is permitted to exist the greater the loss, and it is to be hoped that the appropriation will be immediately restored, or even increased beyond its former amount.

### Filler for Brick Paving

MR. F. E. MYERS, City Engineer of Canton, O., has drawn certain conclusions concerning brick paving from his fifteen years' experience in that city, of which the most interesting relate to fillers. From 1890 to 1896 tar filler was used; during the last ten years most of the paving has had cement filler; a little, however, being laid entirely with clean sand, or with cement for six feet from each curb and the balance sand. He finds no trouble from tar running in hot weather unless the crown of the street is excessive. The streets in Canton laid with tar fifteen years ago are still in good condition, except where ruined by excavations. His greatest difficulty with cement filler has been caused by heat expansion, although with some brick he considers it makes too slippery a pavement. Brick paving in Canton has expanded so much as to raise the center more than four inches above the foundation, breaks in both joints and bricks generally resulting. Two tar expansion joints along each curb and two transversely of the street, each 30 or 40 feet, were insufficient to permit the raising of the brick; but three along each gutter, and at least three transverse joints not more than 24 feet apart have proved efficacious. Asphaltum he prefers to tar as a filler, being pliable and maintaining its position better. Sand filler he does not recommend because it admits water to the foundation, although their sand-filled streets are in very good condition, even one which has been down 13 years.

### Water Meters in Two Cities

THE cost of maintaining meters in Detroit, Mich., and Reading, Pa., last year was as follows: In Detroit, labor and superintendence cost \$5,043.62, materials \$196.67, and stationery and teaming \$297.10, a total of \$5,537.39. As the average number of meters was 6,508, the cost per meter was 85 cents. In Reading clerical service cost \$913.03, repairs \$788.37, reading meters \$269.62, and stationery and teaming \$172.90, a total of \$2,143.92, or \$1.53 for each of 1,399 meters.

During 1905 the Water Department of the City of Reading, tested 221 new meters and 123 old ones. The results were as follows:

KIND OF METER	Number Tested	Per Cent. Over-Registering	Average Time in Service	Per Cent. Inaccuracy
<i>New</i>				
Empire.....	150	97.33	.....	1.20
Trident.....	61	98.36	.....	1.84
Crown.....	3	66.67	.....	1.23
Keystone.....	3	100.00	.....	2.20
Lambert.....	2	50.00	.....	0.25
Gem.....	2	0.00	.....	1.70
<i>Old</i>				
Empire.....	41	73.17	1 yr. 8 mos.	1.32
Crown.....	22	68.19	5 " 8 "	1.27
Trident.....	24	75.00	5 " 5 "	0.96
Thomson.....	6	50.00	4 " 3 "	1.39
Hersey Disc.....	6	66.67	5 " 1 "	1.45
Nash.....	5	100.00	6 " 6 "	1.42
Hersey Rotary.....	2	100.00	6 " 2 "	2.45
Columbia.....	1	0.00	2 " 5 "	0.40

The old meters were all ones which had been removed for repairs, and were rated before being again put in service.

## MUNICIPAL NEWS

**ALABAMA, Montgomery.**—Representatives of the cities of Mobile, Birmingham, Montgomery and Selma have met for the purpose of agreeing upon a plan for securing satisfactory legislation regarding improvements in the **Charters** of cities of over 25,000 inhabitants, as a class, as well as general laws by which smaller cities may incorporate without being obliged to use old and inadequate codes. A committee from each of the cities of the first class will prepare provisional bills and will submit copies to the representatives of the other cities. At a conference to be held soon, it is hoped that this work will form a basis for framing a suitable bill for presentation to the Legislature.

**ARIZONA, Phoenix.**—The city is suffering from an expensive interregnum in the control of its **Waterworks** pending the transfer of the property from private to municipal management. At a recent fire, \$15,000 worth of property was destroyed, the Fire Department being crippled by insufficient water pressure. It is hardly to be expected that the water company would make improvements for purposes of fire protection when its property is threatened with the possibility of municipal competition. The city may take over the waterworks, and probably will, but while waiting for Congressional authority to use proceeds from the sale of waterworks bonds for the purchase of the private plant, the unfortunate condition of things may continue.

**ARKANSAS, Little Rock.**—C. P. Nidecker, Sanitary Engineer of the Home Water Company, who has been investigating complaints of the saline condition of the city **Water**, says salt is present in the proportion of 120 parts in the million. The saline condition is believed to be due to the low water in streams that run over salt beds.

**CALIFORNIA, Los Angeles.**—As result of cold weather that brought on a largely increased consumption of **Gas** for fuel, the supply became exhausted, the capacity of the gas mains was overtaxed and, finally, the machinery at the gas plants broke down. Besides hardships suffered generally from the lack of fuel and light, there have been dangerous accidents, resulting from open gas jets, when the pressure returned.

**Oakland.**—A fire of uncertain extent in a **Garbage Dump** has for some time been a source of complaint to the citizens. The pile is now being explored to find how much of it is burning so that a trench may be cut around the fire and water turned in.

**San Francisco.**—A gigantic scheme of underground and surface **Railway Lines** was submitted to the supervisors at a recent meeting of the Board. The promoter of the enterprise, John J. Egan, asserts that he is backed by eastern and local capitalists, who can raise fifty million dollars or more if necessary to carry out the project. Fear of opposition from vested interests is alleged as the reason for withholding the names of the capitalists.

**COLORADO, Denver.**—The Park Board will have \$190,000 for maintenance and improvement of **Parks**, an amount exceeding the present year's appropriation by \$20,000. The City park, as usual, will receive the largest share of the funds, and the new North Denver parks will come next. The latter, which are now half wild, will be brought under cultivation, and lawns and flower beds will take the place of sagebrush and dandelions. In the South Denver park the lakes will be provided with boats and boat houses will be built. A big dam in Washington park, forming a lake of twenty

acres, will be finished in time for this winter's skating. In City park, paths and drives will be adjusted so as to allow an uninterrupted view of a central figure. It is hoped that some public-spirited citizen will donate an electrical fountain or some monumental piece of statuary for this location.

**CONNECTICUT, Bridgeport.**—Mayor Reynolds has succeeded in inducing the Bridgeport Gas Company to reduce the price of **Gas** to \$1 for all consumers, the reduction to go into effect on the completion of a million-cubic-foot gas holder. The gas company has hitherto been indisposed to grant the concession until such time as the daily consumption should reach a million cubic feet. The company is a new one and has been putting the entire profits into a new plant.

**Waterville.**—Odors from the crematory and the alleged customs of the drivers of **Garbage Wagons** have caused much complaint. The drivers are said to pull the plugs out of the bottom of their wagons and distribute the liquid contents in pools along the street. In order to do away with the nuisance from the plant an appropriation of \$17,000 has been asked for rebuilding the furnaces, which at present do not completely burn the gases.

**DISTRICT OF COLUMBIA, Washington.**—Commissioner Henry B. F. Macfarland has suggested to the Electrical Engineer of the District that arrangements be made with the telephone company so that any one desiring to call the aid of the **Police** or **Fire** Department need not give his telephone number in order to have the connection made. A new switchboard is now being put in at Fire Alarm Headquarters and arrangements for the direct connection desired will probably be made.

**FLORIDA, Pensacola.**—At a recent meeting, the Board of Public Works decided to build **Cement Sidewalks** around Saville square, the work to be done under the day labor system. The area to be paved amounts to 307 square yards, the thickness is 5 inches, and the estimated cost is 87 cents per square yard, in detail, as follows:

0.137 bbl. cement at \$2.25.....	\$0.308
0.13 cu. yd. gravel, \$1.60.....	.208
0.065 cu. yd. sand, \$1.10.....	.072
Labor of finishers.....	.052
Hauling .....	.032
Common labor .....	.195

**GEORGIA, Atlanta.**—The City Council, by a unanimous vote, has given the Atlanta, Birmingham and Atlantic Railroad a **Franchise** to enter the city. To do this it will be necessary to close or cross a number of streets, and the following general conditions were attached to the grant: "The company must forever maintain all bridges and arches in good order; must hold the city harmless against all damages to person or property; must repave and relay sidewalks where they have been torn up at any place, and must provide and keep at their own expense all necessary lights upon and under all bridges and arches; not more than two streets may be closed at any one time, and no street may be closed for a longer period than 48 hours."

**Augusta.**—Preliminary surveys for a sixteen-mile **Boulevard** have been made and a report handed in to the Chamber of Commerce which proposed the enterprise. The service of a landscape architect will be engaged to make a set of plans with a view to scenic effects. The example of Detroit, Mich., is held up as an illustration of the practical financial benefits of work of this sort.

**Macon.**—The police of Macon are wearing their new **Uniforms**. The overcoats this year will be shorter than usual, reaching only to the knee. In past years



the long overcoat has been a serious handicap and the cause of the escape of more than one offender.

**IDAHO, Boise.**—The troubles that may arise from the laying out of **Suburban Additions** according to individual ideas are illustrated in the case of Warm Springs avenue, which the city now desires to regulate and curb as a 60-foot street. On one side of this street the additions do not front on the same line and the question arises as to the right of the city by an ordinance to cut off the projecting properties.

**ILLINOIS, Cairo.**—The largest legal document ever filed in the county was the **Assessment** Roll of the Commercial avenue sewer. It covered 181 pages, 18 by 32 inches, contains nearly 200,000 words and figures, and relates to 6,000 pieces of property. The assessment amounts to \$5.55 for each lot and may be paid in ten annual payments. The total cost of the sewer is \$80,650.

**Chicago.**—The Independent Telephone Company has concluded an arrangement with the Chicago Subway Company for the use of the **Subways** for telephone wires. Ten million dollars is the price paid for the undeveloped property and franchise of the subway company. In addition to this, a rental of \$5.00 per annum per telephone will be paid. The leasing company hopes to develop its system at the rate of 10,000 telephones a year. Martin W. Littleton, Attorney, states that the company is prepared to offer an \$85 rate for unlimited telephone service if the City Council will indorse the transfer.

**Peoria.**—Local sportsmen have a project to convert Bradley park into a **Game Preserve** and hope to enlist the support of the State Game Commissioner. Owing to efficient protection, quail are already more abundant there than in any other part of the county. There is already a large reserve near Springfield which has been stocked with pheasants and other game birds. It is thought that if shooting were prohibited within half a mile of Bradley park the birds would multiply and spread to other parts of the State.

**Springfield.**—The old fifteen-inch **Water Main** leading into the city recently broke about a mile and a half from the pumping station, near a railroad crossing. The first warning of the accident was a sudden reduction in the water pressure. The new twenty-two-inch main carries sufficient water to supply the city at this time of the year, but the desirability of surplus capacity became so obvious that a third main is projected.

**IOWA, Davenport.**—An application to the Mayor and City Council for a **Franchise** for the erection of a gas plant and electric-lighting, heat and power plant and a conduit system has been made by Herbert Wordsworth, trustee. According to the proposed ordinance, the franchise is to run for 25 years, but no exclusive privileges are granted. Provisions are made for arbitration regarding rates to be charged other corporations for the use of conduits. The quality of gas supplied must equal that used in other cities of the same size in the State and in neighboring States. The maximum charges are to be 12 cents per kilowatt hour for electricity and \$1 per 1,000 cubic feet for gas.

**KANSAS, Parsons.**—The Fire Department has moved into a **Fire House** recently finished. The building is of brick, two stories high, and provides room for three pieces of apparatus. On the second floor the sleeping rooms and bathrooms are equal to those of a private residence. A billiard table, as well as space for other games, has been provided. Besides the firemen's quarters one room is occupied by the Police Department. Back of the building a jail, with concrete walls a foot thick, is located.

**Topeka.**—It is estimated that three and a-half miles of **Sewers** in North Topeka have become filled with sand. The land in that section is flat and, while the sewers have as much fall as the conditions permit, it is insufficient to keep them clean. Even the main sewer has an accumulation of five or six inches of sand lining the bottom. The city is engaged in cleaning the sewer with new machines purchased from Messrs. King and Winburn, of Topeka, the patentees. A block can be cleaned out in a day and a-half.

**KENTUCKY, Louisville.**—That a **Coal Combine** exists in Louisville is the opinion expressed by the Grand Jury, and the recommendation is made that the matter be made the subject of further investigation by the succeeding Grand Jury. It was found that coal is from twenty-five to fifty cents cheaper by the ton in the neighboring cities of New Albany and Jeffersonville and, further, that dealers give their patrons only seventy-two pounds for a bushel, whereas a legal bushel is eighty pounds, or, by the ton, 1,800 pounds is furnished instead of 2,000.

**Maysville.**—Chief of Police Harry O. Ort has started a crusade against **Gambling**. He says he intends to raid and close up every joint in the city and arrest every man connected with them.

**Owensboro.**—The Board of Health has begun an investigation of all **Dairies** selling their products in the city. The standard requirements as to percentage of butter fat will have to be kept up and sanitary conditions of dairies and farm buildings will also be insisted on.

**LOUISIANA, Baton Rouge.**—Good progress in the appraisalment of the Baton Rouge Water Company's plant is being made by Griffin O'Neil, of Dallas, Tex., representing the city, John W. Alvord, of Chicago, Ill., representing the **Water** company, and Wyncoop Kiersted, of Kansas City, Mo., acting as a third member of the commission. The city has the option of purchasing the works at the price set upon them by the engineers.

**New Orleans.**—The **Scarcity of Bidders** for the construction of city buildings was made the subject of a special message from Mayor Behrman to the City Council. Attributing this to the long credit demanded by the city, he strongly urges that the periods of payment be shortened and that the ordinance providing for the building of the City Hall Annex be so amended as to conform to this principle.

**MAINE, Portland.**—The Board of **Water Commissioners** to whom was referred a resolution of the Board of Trade relating to the necessity of securing legislation for the preservation of the purity of the water supply of the city has filed a report with the City Clerk. The statute which provides a penalty for wilfully polluting a water supply is declared to be inadequate, because in any case where conviction is sought it is necessary to prove that the particular matter in question does in fact render the water impure. Amendments to the statutes which will more specifically prohibit acts that have a polluting tendency are recommended.

**MARYLAND, Baltimore.**—As one of the first steps toward the carrying out of the **Union Station** project the Sewerage Commission approved the plan for converting Jones' Falls into a big sewer and covering it with a fine driveway. This driveway, in the valley of Jones' Falls, will offer what is practically a level thoroughfare from the down-town section direct to the proposed union station, at North avenue, the design being to locate the station at what will practically be the upper end of the driveway.

**Hagerstown.**—The Street Commissioners are considering the question of installing **Electric Meters** for the use of patrons of the municipal plant who are now paying for current on a flat rate basis. It is asserted that this kind of contract is being abused, some people burning the lights all day. About 200 meters would be required, costing different amounts according to capacity, some as much as \$100.

**MASSACHUSETTS, Holyoke.**—In order to secure **Cheaper Fares** on street cars, for working people during certain hours, the Board of Aldermen has appointed a committee consisting of Mayor Avery, President Kennedy, and Aldermen Ainley, Devine and Warner to confer with the railway company. This committee is endeavoring to secure a three-cent fare.

**Saugus.**—The present method of carrying **Garbage** in tubs in an open wagon without any covering, leaving an unsightly mass of garbage of every description openly exposed to view, does not meet with the approval of many of the citizens, who will advocate a different system at the next town meeting.

**Worcester.**—A committee of the City Council is revising the city **Ordinances**, a work which has not been done for twelve years. During that time many amendments and additions have been made and as a consequence there are few complete copies of the ordinances in existence. The Building Department is particularly desirous of a complete revision in accordance with present requirements.

**MICHIGAN, Detroit.**—A boulevard along the lake front from Detroit to Grosse Point, at the north of the city, is a project which the Board of Aldermen hopes to see finished in from six to ten years. Alderman Hilger, looking to the more remote future, desires to have the city, co-operating with Toledo, O., obtain control of the water front south of the city with a view to the construction of a **Boulevard** connecting the two cities. Twenty years were required to provide Detroit with some of its most beautiful boulevards. Looking ahead at the probable growth of the cities, it does not seem that the proposed improvement would be beyond the reasonable requirements of park systems at that time. Detroit is already known as one of the most beautiful cities in the country, while Toledo is gradually developing in the matter of outdoor art. It is believed that a parkway connecting the two cities might become to the Central States what Palm Beach is to the Eastern and Southern States.

**MINNESOTA, St. Paul.**—A permanent organization has been formed as a result of a meeting of improvement associations and commercial clubs for the purpose of securing adequate **Approaches** to the State Capitol. Mr. Louis Betz, the Chairman of the Capitol Commission, outlined briefly the plan prepared by Cass Gilbert and approved by the Park Board which has met with the general approval of those who have given the matter their attention. The chief feature is a broad avenue on the central axis of the building. Ground is to be purchased so as to give an unobstructed view of the Capitol from this main avenue as well as others which are also planned. The project is estimated to cost \$2,000,000.

**MISSISSIPPI, Jackson.**—The recent passage of the charter amendment, authorizing a bond issue for waterworks, sewerage extensions and school buildings, is only an instance of the general **Civic Activity** throughout the State. During the past year various towns have floated \$3,000,000 bonds with financial syndicates of New York and Chicago for local improvements.

**MISSOURI, St. Louis.**—Extensive plans for civic centers have been outlined in the report of the **Civic Centers** Committee of the Civic League. The fact was brought to light that, whereas 48 per cent. of the entire population of St. Louis lives east of Jefferson avenue, only 7 per cent. of the park area and 33 per cent. of the recreation area is located in that district. With a view to remedying these conditions, the following parks have been proposed: Block between Tenth, Eleventh, Carr and Biddle Streets; block between Tenth, Eleventh, Mullanphy and O'Fallon streets (now partly occupied by the Mullanphy playground); two blocks near the Soulard market place; a block in the vicinity of Ninth and Ann streets; larger park for baseball and athletic sports somewhere along Jefferson avenue south of Chouteau avenue. Also that Carr Square be provided with additional playground apparatus; that the buildings at Bissell's Point be equipped with gymnastic apparatus and a large swimming pool; that Hyde park, Gamble place and Jackson place be given additional playground equipment, and that additional playground facilities be provided at Carnegie place and Lyon park.

**MONTANA, Lewiston.**—Water from a new **Gravity System** now fills the city mains with clear spring water. The system, which cost \$30,000, is, according to the engineer's estimate, sufficient for a population of 15,000.

**NEW HAMPSHIRE, Lebanon.**—The question of a pure and sufficient **Water Supply** is under consideration. Systems for filtering river water and an artesian well having proved unsatisfactory, two new propositions have been discussed. The first is to go six miles into the Grantham Mountains and dam the waters of Big Brook, bringing the water to the city by gravitation. The other plan is to put in a mechanical filter at the present pumping station so that more river water may be safely used.

**NEW JERSEY, Newark.**—When the Police Commissioners get their headquarters force fully settled at the new City Hall they intend to enlarge their photographic plant and equipment for **Bertillon** measuring purposes so that their bureau will not be one of the best but the best in the country. A room on the upper floor will be equipped like the gallery now in use by the founder of the system in Paris. A new camera of peculiar construction will be used which will permit measurements from life to be checked on photographs. With this camera photographs of scenes coming under police attention can be taken in such a way as to constitute a map so accurate that measurements taken from it according to a scale will reproduce the actual conditions.

**Trenton.**—Mayor Gnichtel has approved an ordinance to prevent the placing of **Banners** or advertising devices across the roadway of public streets except upon special occasions, and then only on the written permission of the Chief of Police. Penalties for violation are the same as for violation of the swinging sign ordinance.

**NEW YORK, New York.**—Dock Commissioner Bensel is in favor of operating two new **Ferries** to run between the Battery and the southern part of Brooklyn, and desires to have land secured for the terminal. Two new Staten Island ferries are contemplated, one to Stapleton and one to Bergen Point.

The Board of Estimates and Apportionment has agreed to accept seven new **subway** routes and has decided that alternative bids for construction by private capital be invited. The routes are known respectively as the Seventh, Eighth, Lexington, Third and Jerome avenue routes in Manhattan and the Bronx; the



Fourth avenue and Bensonhurst route in Brooklyn; the Tri-Borough route, from 138th street over the Manhattan Bridge. Altogether the routes provide for the construction of seventy-five miles of new subways, to cost about \$160,000,000.

**Niagara Falls.**—As a result of the experiences at the last election, when returns in some instances were made twenty-four hours after the polls were closed, the sentiment of the city is practically unanimous for a return to the use of **Voting Machines**. The city Council has decided to purchase thirteen voting machines, at a cost of \$7,000, on which account a credit of \$2,750 will be made for the return of eleven old machines.

**Rome.**—On recommendation of the City Engineer a new **Snow Roller** will be purchased for use on the road to the State Custodial Asylum, two miles away. The cost of the roller is trifling.

**Syracuse.**—A request for \$25,000 for the purpose of inaugurating work on a **Park and boulevard System** is the modest request of the Syracuse Park Commission. This amount, however, will be spent largely for surveys and in securing advice of a landscape architect of wide experience.

**Utica.**—Tests of **City Water** made at the Bender Laboratory resulted as follows: Agar plates showed 3,680 organisms per c.c.; the gelatine plate showed 2,640 per c.c. The presumptive test for bacillus coli was negative. The water which Utica is now drinking is taken from the Hinckley dam, where, according to the engineers' map, there are 49 danger spots above the intake. Three miles above, on the Black creek, there are 28 nuisances. On the West Canada creek, five miles above Hinckley, are 15 nuisances. While it is asserted that no bad effects come from drinking this water, the fact remains that there have been 36 cases of typhoid in the city during the past three months.

**NORTH CAROLINA, Greensboro.**—In discussing an ordinance recently passed in Richmond, Va., which requires **Saloons** to close at midnight, an old resident of Greensboro asserts that Greensboro was the first city in the country to enact modern saloon regulations. In 1885, at the instance of Judge Daniel Schenck, then an alderman, an ordinance was passed forbidding the issuing of licenses for saloons located within a distance of 100 feet of any church, school, market house, court house or post office.

**NORTH DAKOTA, Valley City.**—The City Normal School is supplied with **Water** from an artesian well 1,050 feet deep, which furnishes a greater force than the city plant. Private wells in the city have been found to give a pressure of 75 pounds to the inch and they will be used to supply power for a lighting plant and other purposes.

**OHIO, Columbus.**—Specifications for the disposal of **Garbage** by a city crematory have been adopted by the Service Board. According to an amendment supplementary bids can be made by any firm which can prove successful operation of their plant in a city for two years prior to the date of the bid. Twenty-five per cent. of the contract price will be withheld for one year pending successful operations of the plant by the contractor. A capacity of 200 tons is required.

**Toledo.**—A new **License Law** contains the following provisions: Holders of theater licenses must redeem tickets presented to them half an hour or more before the beginning of the entertainment; licensees of billiard and pool rooms are made responsible for excluding patrons or onlookers of less than sixteen years of age; a contractor desiring to move a building, besides being held responsible for damages, must move only over a

specified route; street singers, whether participating in religious services or not, must move away from any position when notified by the Mayor at the instance of a property owner; the charges of cabmen will be regulated and a schedule of prices must be posted in each licensed cab.

**PENNSYLVANIA, Lebanon.**—The matter of protecting **Grade Crossings** has been brought into prominence by a recent accident on the Philadelphia and Reading railway. At a Council meeting Mr. Lord stated that at a single crossing an average of two persons a year, for several years past, had been killed. An ordinance was unanimously passed requiring the railroad to keep a flagman day and night at every crossing in the city and a conference will be held with the railroad officials for more satisfactory remedial measures.

**Wilkesbarre.**—Secretary Bennett of the Board of Trade and Chairman of the Joint Finance Committee of Councils, has been looking over Harrisburg **Parks** with a view to collecting information useful to the promoters of a park system for Wilkesbarre. Already there is a River Common of 35 acres and a natural parkway in the hills near the city and across the river is a wild section that might easily be made into a park. The city has one unique advantage, in that under the common is a deposit of coal sixty feet thick, valued at \$500,000, the proceeds from the sale of which must be used for park purposes. An appropriation of one-half a mill in the tax levy provides \$19,000 a year for the maintenance of the common.

**York.**—New rules and regulations of the **Sanitary Committee** of City Councils was read at a recent Council meeting. One section reads: "Any ducks, geese, chickens or poultry running at large in the city shall be confiscated." Nothing is stated as to what will be done with the confiscated birds, but it is presumed that the sanitary policeman will be the beneficiary.

**RHODE ISLAND, Providence.**—Acting Mayor Reynolds has refused a **License** for the appearance of children under sixteen years of age on the stages of the local theaters. He is also opposed to the "penny vaudeville" as it is said to be conducted in the city and he will give the matter a thorough investigation.

**SOUTH CAROLINA, Sumter.**—The city is making a creditable record in the construction of **Public Works**. A year and a half ago over a hundred thousand dollars' worth of bonds were issued for waterworks. An election on the issue of \$50,000 for a sewerage system will probably soon be held. Several thousand yards of cement paving on Main street have been contracted for, but will probably not be laid ahead of the sewerage system. Two companies have asked for a street railway franchise, one of which has been accepted.

**TENNESSEE, Chattanooga.**—Two ordinances have been passed designed to do away with **Dives**. The conditions prohibited by one ordinance are these: Permitting chairs or tables where liquors are sold at retail; playing games; displaying objectionable pictures. The other ordinance provides for a satisfactory bond, and the revocation of the license of any offender against the liquor laws.

**TEXAS, Fort Worth.**—A resolution requesting the Street Committee to devise a plan for improving the system of **House Numbering** was passed at a recent Council meeting. The fact came out that only about 15 per cent. of the houses in the city have numbers, and that half of these are incorrect. The Post Office Department requires that towns where mail is delivered shall have numbers on a majority of the houses.

**Galveston.**—During November the **Grade-Raising** dredges distributed 192,250 cubic yards of filling within the city. The work of raising the grade is about finished, as the following figures will show. The total amount contracted for by the city was 10,470,000 cubic yards, of which 5,070,289 cubic yards are completed to date. For the county the same contractors are to place about 750,000 cubic yards on the 100-foot strip back of the sea wall, known as the sea-wall right of way; of this amount 450,000 yards have been placed. It is estimated that three years more will be required to finish the work, which was begun two years ago.

**Waco.**—At a meeting of the Business Men's Club, at which the City Council was largely represented, a resolution was passed requesting the Legislature to amend the city **Charter**, so as to reduce the number of Aldermen from ten to six; each member to be elected at large, but must reside in the ward from which he is elected. This action is the result of a compromise instead of adopting the commission form of government.

**UTAH, Salt Lake City.**—At a recent Council meeting a resolution was passed appropriating \$5,000 to cover the expense of installing a satisfactory system of **Accounting** in all of the city governments. Councilman W. Mont Ferry, in his resolution, asserts that the system of accounts in use is antiquated and cumbersome. Nothing was said as to whether it was the intention to adopt standard forms or not, the object mentioned being to facilitate business.

**VERMONT, Burlington.**—Prof. J. W. Votey, Consulting Engineer, has submitted his report on the available **Materials** for macadamizing the city streets. Tests of different stones were made determining their specific gravity, amount of water absorbed, the per cent. of wear as indicated by the French coefficient of wear, hardness, toughness and cementing value. Stone from the Hoyt Ledge is recommended. This material is described as a feld spathic sandstone weighing 168 pounds per cubic foot, absorbing 0.31 pounds water per cubic foot, 2.08 per cent. of wear, 14.3 French coefficient, hardness 19.5, toughness 17, and cementing value 4.

**VIRGINIA, Danville.**—The new rate for **Electric Power** supplied by the municipal plant for manufacturing purposes went into effect December 1. The rate, four cents per kilowatt-hour, is believed to be the lowest rate in effect anywhere in the South.

**Richmond.**—An expenditure of \$325,000 to rehabilitate the city **Gas Works** has been decided on by the City Council. The requirements are: Separate apparatus and buildings for coal and water gas plants, the installation of a Lowe water-gas apparatus with a daily capacity of 1,250,000 cubic feet, a new condensing plant with a capacity of 1,600,000 cubic feet, purifying apparatus for 1,600,000 cubic feet of coal gas and 2,500,000 cubic feet of water gas per day, new mains, tar tanks, a coal gas plant of 1,600,000 cubic feet daily capacity, and a 600,000 cubic foot gas holder. It is desired to have the improvements under way early in the spring.

**WISCONSIN, Superior.**—The city committee, which has been taking up the matter of establishing a **Municipal Lighting** plant and discussing ways and means for arranging for the purchase of the plant, has requested the City Attorney, Judge Luce, to draw up a plan. The one most favored seems to be to take the plant and turn over a large part of the net earnings to the stockholders, or to take over the bonded indebtedness of the plant and scale the bonds down to their present market value.

**CANADA, Berlin.**—At a public meeting under the auspices of the Western Ontario Municipalities Niagara Power Union, action was taken apropos the **Water Power** of Ontario, the following resolutions being passed unanimously:

"Whereas in Ontario there are no developed coal mines, with the result that this province must depend not only on a foreign country, but on a monopoly trust in a foreign country for its coal.

"And whereas the water powers of Ontario commercially used are worth untold millions, the value of Niagara Falls alone being estimated at two billions of dollars, a sum greater than the present assessable value of the whole province.

"And whereas monopoly interests are endeavoring to obtain control for their own benefit of these great sources of natural wealth.

"And whereas experience shows that monopoly control means charging the consumer all the traffic will bear, hampering our industries and robbing the people of this province of untold millions rightfully theirs; and whereas at the last session of the Ontario Legislature an act was passed, entitled 'An Act to Provide for the Transmission of Electrical Power to Municipalities,' and the hydro-electric power commission was appointed to carry out the provisions of that act.

"And whereas, as provided in the aforesaid act, it is proposed to submit by-laws in the various municipalities at the forthcoming elections to secure the transmission to the various municipalities of electric energy free from monopoly prices or monopoly control.

"Therefore, this meeting indorses the work that has been done by the Hydro-Electric Power Commission and by the Western Ontario Municipalities Niagara Power Union, and pledges itself to do all in its power to secure the submission of the necessary by-laws in the largest possible number of municipalities at the forthcoming municipal elections."

**Montreal.**—The Union of Canadian Municipalities, at a recent meeting in City Hall, adopted a resolution that a petition be sent to the provincial authorities asking that it provide a **Provincial Police** force whose duty it shall be to patrol necessary parts of the province; but that such force give especial attention to protecting the various municipalities surrounding Montreal. The object of the meeting was to devise means whereby municipalities, near Montreal, could get sufficient police protection in order to prevent the crimes which are constantly being enacted in the outlying districts by burglars, murderers and other criminals. The keynote of the meeting was that outlying municipalities were too poor to provide proper police protection, and that it was only just, seeing how the city of Montreal gave to the funds of the province, that the Legislature should provide a mounted police force whose duty it would be to patrol adjoining towns and villages and prevent crime from being committed.

**Toronto.**—"Tear down wretched hovels in St. Johns Ward; erect **Modern Apartment Houses** in place," says John Ross Robertson, who has recently visited and examined many of the districts in London, England, which have been reconstructed. "Such a district would not be tolerated at all in London," he said. "In these reconstructed areas I have seen five and six-roomed apartments on the first or second floor renting at £1 a week, or £52 a year. Smaller apartments, of course, would rent for much less. In these municipal apartment houses, it must be remembered, the drainage is perfect, every possible sanitary convenience is provided, and the amount of interior woodwork is reduced to a minimum. The kitchens have concrete floors and usually concrete has replaced wood in the interior of the houses. As to local conditions, it is doubtful if the city has at present the power to undertake such an enterprise, and I believe that steps should be taken to obtain the necessary legislation. Moreover, if such a scheme were carried out, to erect good, plain apartment houses on a large scale, built substantially and with proper conveniences, I am convinced they would pay a net dividend of 10 per cent."



## LEGAL NEWS

A Summary and Notes of Recent Decisions  
—Rulings of Municipal Interest

## Fire Hose Title

**The Eureka Fire Hose Company of New York vs. The Eureka Rubber Manufacturing Company of New Jersey.**—The decision of infringement of corporate name and trade-marks and permanent injunction issued by Chancellor Emery last February was sustained. The use of the word "Eureka" as part of a business title in connection with the manufacture of rubber-lined cotton fire hose belongs to the plaintiffs.—Court of Errors and Appeals, Trenton, N. J.

## Patented Pavements

**Siegel et al. vs. City of Chicago.**—The Chicago, Ill., Council passed an ordinance to pave a street specifying that the wearing surface should be of a material which is patented and controlled by one firm. Property owners appealed to the Supreme Court, after the assessment was confirmed, complaining that it was impossible to have competitive bids. The court holds that unless the Council by a two-thirds vote authorizes the proper office or board to enter into a contract for a patent to be used in a public improvement it is necessary that there should be free and open competition, and therefore specifications of any patent which restricts bidding are illegal and void.—Supreme Court, Springfield, Ill.

## Police Judge Ousted

**Olson et al. vs. Beebe.**—A question as to the jurisdiction of Beebe as police justice of New Richmond, Wis., came up in habeas corpus proceedings in the case of Olson and others, who were arrested and committed to the county jail for participation in Halloween pranks. An entire day was devoted to a hearing before Judge Arnquist, who released the defendants, holding that Beebe had no jurisdiction, that the city of New Richmond had no such office as police justice, that there was no police court in the city and that therefore all the acts of S. S. Beebe as police justice were null and void.—Supreme Court, New Richmond, Wis.

## Legislative Power of City

**Denver vs. Hallett.**—The court declares that the Colorado Constitution, granting home rule to the city of Denver, and providing that the people in the city shall always have the exclusive power of making, altering, revising, or amending their charter, bestowed upon the people all the power possessed by the Legislature, so that they were authorized to provide by charter for the erection of an auditorium, to purchase a site therefor, and to issue bonds to discharge the indebtedness arising from its construction.—Colorado Supreme Court.

## Peddler Ordinance Contested

**Gas City vs. Fallis.**—The city fined Fallis, who is the agent of a tea company, for an alleged violation of the ordinance of the city compelling peddlers to pay a license. The company back of Fallis has declared that it will carry the case to the highest court, the claim being that agents do not come within the province of the peddler's license ordinance.—Circuit Court, Gas City, Ind.

WHO'S WHO IN  
MUNICIPAL WORK

**MANNING, Warren Henry.**—Born at Reading, Mass., in 1860. Graduated from the Reading High School. First employed in his father's Reading Nursery; then a student under Frederic Law Olmsted, Sr., in Brookline, Mass.; later in charge of the Planting Department, where he was closely associated with Mr. Olmsted in important undertakings, such as World's Columbian Exposition, Biltmore estate, Biltmore, N. C.; parks at Rochester, Louisville, Chicago, and Boston. In 1896 established his own office. His private practice has included nearly seven hundred undertakings in forty States, including parks or park systems in Harrisburg, Pa., Milwaukee, Wis., Minneapolis, Minn., Louisville, Ky. Is the landscape designer of the Jamestown Exposition, Norfolk, Va., which is to open in 1907. Is at present engaged on town plans for Munising, Mich., Flint, Mich., Menomonie, Wis., Warren, Ariz., and Patchogue, L. I. Was one of the organizers and Secretary of the American Park and Outdoor Art Association before it was merged into the American Civic Association, and is now Department Vice-President in the American Civic Association. Is a charter member of the American Society of Landscape Architects, a member of the National Arts Club, American Forestry Association, Massachusetts Forestry Association, New England Botanical Club, American Association for the Advancement of Science, Appalachian Mountain Club, Twentieth Century Club, National Municipal League, Society for the Protection of New Hampshire Forests, Billerica Improvement Association, Billerica Historical Society, American Social Science Association, National Geographic Society, Metropolitan Improvement League, Engineers' Club of Central Pennsylvania, Massachusetts Fish and Game Protective Association, Virginia Club, and Massachusetts Civic League.—Address, Tremont Building, Boston, Mass.

**BECK, Howard C.**—Deputy City Comptroller, Detroit, Mich., since 1895. Born at Irvington, N. J., Aug. 4, 1868, son of Rev. Charles A. and S. Amanda (Cossart) Beck; graduated in scientific course Portsmouth, N. H., High School, 1884. Associated with the Bradstreet Mercantile Agency in Detroit office in various capacities 1884 to 1892. Appointed Warrant Clerk, Comptroller's Office, 1892, Chief Clerk 1894, and Deputy Comptroller by the late Comptroller F. A. Blades, 1895. Member of Committee on Uniform Municipal Accounting National Municipal League, Chairman, Committee on Uniform Accounting League of Michigan Municipalities; Secretary of National Association of Comptrollers and Auditors; member of Michigan Society of Public Accountants, and affiliated member of National Association of Public Accountants. Has made a wide study of municipal accounting and made many improvements in Detroit's fiscal system, centralizing in the Comptroller the auditing power for all departments, and handled important financial legislation for Detroit at the State capital since 1897 with much success; is a recognized authority on municipal accounting, and is well versed on matters pertaining to municipal affairs generally. Residence, Detroit, Mich.

## NEWS OF THE SOCIETIES

**New England Waterworks Association.**—The Nominating Committee of this association has presented the following names for the annual election to take place on January 9. President, John C. Whitney; vice-presidents, M. N. Baker, Joseph M. Birmingham, George H. Snell, V. C. Hastings, George A. King and H. T. Sparks; secretary, Willard Kent; treasurer, Lewis M. Bancroft; editor, Chas. W. Sherman; advertising agent, Robert J. Thomas; executive committee, A. E. Martin; D. N. Tower, George W. Batchelder; finance committee, Arthur D. Marble, William E. Maybury, George Cassell. Twelve of these are from Massachusetts and one from each of the States of Maine, New Hampshire, Rhode Island, Connecticut and New York. In March of this year the society had 29 members in Maine, 14 in New Hampshire, 10 in Vermont, 240 in Massachusetts, 16 in Rhode Island, 37 in Connecticut, 105 in New York, 24 in New Jersey, 31 in Pennsylvania, and 104 in other States and foreign countries.

**Western New York Firemen's Association.**—A committee has been appointed to draw up a bill providing for the establishment of a Western New York Firemen's Home. On the committee are William J. Gow, of Niagara Falls, and John R. Mahaney, of Lockport. To provide funds for the maintenance of this home a bill will be drafted and sent to the Legislature, asking that the association be given its share of the 10 per cent. of the 2 per cent. tax paid by the foreign insurance companies which at present is given to the State Firemen's Home.

## Calendar of Meetings

## December 11-12.

**American Portland Cement Manufacturers.**—Fourth annual meeting, Hotel Astor, New York City.—C. Earle E. Bottomley, Assistant Secretary, Land Title Building, Philadelphia, Pa.

## December 27-January 2.

**American Association for the Advancement of Science.**—Annual meeting, New York City.—L. O. Howard, Secretary, Cosmos Club, Washington, D. C.

## January.

**American Institute of Social Service.**—Exposition, New York City.—Dr. William H. Tolman, Director, 287 Fourth avenue, New York.

## January 3.

**Engineers' Society of Western Pennsylvania.**—Annual meeting, Pittsburg, Pa.—F. V. McMullin, Secretary, 410 Pennsylvania avenue, Pittsburg, Pa.

## January 8-11.

**National Association of Cement Users.**—Annual meeting, Chicago, Ill.—W. W. Curtis, Secretary, 585 Caxton Building, Chicago, Ill.

## January 9.

**New England Water Works Association.**—Annual meeting, Boston, Mass.—Willard Kent, Secretary, Narragansett Pier, R. I.

## January 16-17.

**American Society of Civil Engineers.**—Fifty-fourth annual meeting, at the House of the Society, 220 West 57th street, New York City.—Charles Warren Hunt, Secretary.

## January 24.

**Ohio Local Health Authorities.**—First annual conference, Columbus, Ohio.

## February 15-16.

**Wisconsin Gas Association.**—Annual meeting.—Henry H. Hyde, Secretary, Racine, Wis.

## February 22.

**New England Association of Gas Engineers.**—Annual meeting, Boston, Mass.—N. W. Gifford, Secretary, New Bedford, Mass.

## April 18-21.

**Southwestern Gas, Electric and Street Railway Association.**—Annual meeting, San Antonio, Tex.—Frank C. Duffey, Secretary, Beaumont, Tex.

## THE WEEK'S CONTRACT NEWS

Relating to Municipal and Public Work—Street Improvements—Paving, Road Making, Cleaning and Sprinkling—Sewerage, Water Supply and Public Lighting—Fire Equipment and Supplies—Buildings, Bridges and Street Railways—Sanitation, Garbage and Waste Disposal—Police, Parks and Miscellaneous—Proposals and Awards

### BIDS ASKED FOR

	CITY	RECEIVED UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
<b>Street Improvements</b>				
New Jersey	Hoboken	December 12, 8 P.M.	Grading, laying Belgian block, reset curb.	James H. Londrigan, City Clerk.
Pennsylvania	Philadelphia	December 12, noon	Laying asphalt and granolithic walks.	Chief, Bureau of Water.
New Jersey	Newark	December 12, 3 P.M.	Paving 9½ miles road in Essex County.	Thomas McGowan, Director.
New York	Albany	December 13, noon	Additional work on Delaware turnpike.	H. A. Van Alstyne, State Engineer.
New York	Syracuse	December 15, noon	Improving 3.263 miles on two roads.	H. A. Van Alstyne, Albany.
Ohio	Delaware	December 15	Grading and macadamizing roads in Orange.	E. S. Mendenhall, Co. Aud.
New York	New York	December 18, 11 A.M.	Grading curb, etc., two streets.	Louis F. Hatfen, Boro. Pres.
Kentucky	Louisville	December 18, noon	1,647 cu. yds. excavation and 5,271 sq. yds. granitoid pavement on 13 blocks; estimate, \$9,300.	J. P. Claybrook, City Engineer.
Missouri	St. Louis	December 18	Grading and paving with brick.	Board of Public Works.
New York	Brooklyn	December 19, 11 A.M.	Erecting an asphalt plant.	Bird S. Coler, President.
New York	Brooklyn	December 19, 11 A.M.	Grading, laying curb, paving, etc.; also furnishing broken trap rock and screenings.	Bird S. Coler, President.
Ohio	Cincinnati	December 19, noon	Grade, macadamize, etc., Stanley Avenue.	M. J. Keefe, Clk. Bd. Pub. Serv.
Georgia	Thomasville	December 19, 6 P.M.	Paving, laying curbs and sidewalks.	H. S. Jaudon, Engineer.
Ohio	Cincinnati	December 24, noon	Grade, set curb, etc., Euclid Ave.; cost, \$6,722.	C. N. Dannenhowe, Engineer.
Ohio	Madisonville	December 24	Macadamizing 1/2 Mason St. and Stewart Place.	J. A. Conant, Village Clerk.
Ohio	Cincinnati	December 26, noon	Roadway Fifth Ave.; inc. 1,550 sq. yds. broken stone, 3,030 lin. ft. curb and gutter, 15,500 cu. yds. grading; estimate, \$12,642.	C. N. Dannenhowe, Engineer.
Iowa	Oskaloosa	January 1	Paving street.	C. E. Monroe, City Clerk.
New York	Amityville	January 7	Macadamizing, etc., Broadway and Park Ave.	Chas. W. Darling, Village Engineer.
New York	Newburgh	January 7, noon	Laying 18,700 sq. yds. vitrified or asphalt block or bitulithic on two streets.	Everett Garrison, City Engineer.
Indiana	Princeton	February 1	Constructing 11 miles of gravel road.	Harry R. Embree, Co. Aud.
<b>Water Supply</b>				
Pennsylvania	Spring City	December 12, noon	Reservoir and artesian wells at Institution for Feeble Minded and Epileptic.	Philip H. Johnson, Land Title. Bldg., Philadelphia, Arch.
Texas	Fort Worth	December 15, 2 P.M.	Air compressor and auxiliaries, 3,000 cu. ft. capacity, also two 3,000,000-gal. high-duty pumps.	John B. Hawley, City Engineer.
Illinois	Chicago Heights	December 17	Two simple, duplex steam pumps; also cross compound air compressor at pump station.	John Gravelot, City Clerk.
Maryland	Baltimore	December 19, 11 A.M.	Pipe, fittings, valves, brick, cement, etc., for Water Dept. during 1907.	Alfred M. Quick, Water Engineer.
Cuba	Guantanamo	December 19, 11 A.M.	Constructing steel stand pipe with fittings, etc. U. S. naval coal depot.	Bureau of Equipment, Navy Dept., Washington, D. C.
Ontario	Fort William	December 22, 6 P.M.	Constructing 500 ft. 36-in. steel intake pipe, 4,500 ft. concrete-lined tunnel, 4,000 cu. yds. excavation, concrete for bay, valves, etc.	H. S. Hancock, Town Engineer.
Illinois	Chicago	December 22	Constructing five pumping engines, 25,000,000-gals. capacity.	Wm. L. O'Connell, Com. Pub. Wks.
Illinois	Chicago	December 24, 11 A.M.	All hydrant and stop valve castings for 1907.	Wm. L. O'Connell, Com. Pub. Wks.
New York	New York	December 26, 2 P.M.	Rubber valves, castings, bar iron, steel, brick, Portland cement, etc.	John H. O'Brien, Water Com'r.
Illinois	Chicago	December 27, 21 A.M.	Constructing 8 ft. water tunnel, 28,350 ft. long.	Wm. L. O'Connell, Com. Pub. Wks.
Oregon	Klamath Agency	December 28, 2 P.M.	Constructing water system.	Horace G. Wilson, Superintendent.
Virginia	Fort Monroe	December 31, noon	Constructing 50,000-gal. steel water tank.	Capt. R. H. C. Kelson, Q. M.
Manitoba	Winnipeg	December 31, 2:30 P.M.	Water pipes, specials, manholes, valves, etc.	H. N. Rutten, City Engineer.
Louisiana	Jonesville	January 2	Sinking an artesian well.	T. M. Mathews, Mayor.
Pennsylvania	Philadelphia	January 4, noon	Pumping engine for Lardner's Point Station.	John R. Hathaway, Dir. D. P. W.
Pennsylvania	Philadelphia	January 4, noon	Coal handling machinery and pockets, Torresdale pumping station.	John R. Hathaway, Dir. D. P. W.
Missouri	Rolla	January 7	Constructing waterworks system.	McRae & Harris, Engineers.
Indiana	Elkhart	January 10	Waterworks system franchise with city option buying.	E. L. Arnold, Pres. Bd. Pub. Wks.
Illinois	Kangley	January 22, 4 P.M.	1,840 ft. 4-in. pipe, 1,780 ft. 2-in. pipe connections, valves, hydrants, etc.	Geo. Clay, Village Clerk.
Louisiana	New Orleans	January 23, 3 P.M.	38,000 tons, 4 to 42-in. cast-iron pipe and 1,100 tons of specials; also for hauling and laying same.	Geo. G. Earl, Gen. Supt. Water Bd.
<b>Sewerage</b>				
Pennsylvania	Spring City	December 12, noon	Sewer system, Institution for Feeble Minded.	P. H. Johnson, Philadelphia, Arch.
New York	Buffalo	December 13, 11 A.M.	Laying 18, 15 and 12-in. tile sewers.	F. G. Ward, Com'r Pub. Works.
Ohio	Cleveland	December 13, noon	Building main intercepting sewer, cost, \$6,000; and Mayfield road sewer, \$1,300.	A. R. Callow, Sec'y B. P. S.
Massachusetts	Boston	December 14, 2:30 P.M.	Constructing part, Section 85, Extension of High Level Sewer, 1,200 ft. 60 x 72 in. sewer, 1,400 cu. yds. concrete masonry, etc.	Wm. M. Brown, Engineer.
Wisconsin	Milwaukee	December 14	Constructing brick sewer in Bradley street.	Peter J. Koehler, Comptroller.
New York	West Seneca	December 15, 2 P.M.	Constructing sewer system, pumping and disposal plants; inc. 45,000 ft. 8 to 30-in. tile, also iron pipe to sewer, 1,000 acres; disposal plant to cover area 75,000 sq. ft., etc.	Dennison Fairchild, Buffalo, Eng'r.
Ohio	Steubenville	December 15	Constructing 12-in. sewer in two streets.	T. W. Vance, City Clerk.



## Sewerage (Continued.)

California.....	San Francisco.....	December 17.....	Constructing sewers; cost, \$1,000,000.....	Thos. P. Woodward, City Eng'r.
New York.....	New York.....	December 18, 11 A.M.....	Sewers and appurtenances, five streets.....	Louis F. Haffen, Boro. Pres.
Illinois.....	Chicago.....	December 17, 10.30 A.M.....	Constructing and adjusting sewers, etc.....	John A. May, Sec'y Bd. Local Im.
Kentucky.....	Louisville.....	December 18, noon.....	Constructing 200 ft. 18-in. and 1,100 ft. 27-in. pipe sewer in 3 streets; estimate, \$5,600.....	J. P. Claybrook, City Engineer.
Nebraska.....	Fairbury.....	December 18, 6 P.M.....	Constructing sewer lateral; estimate, \$3,600.....	F. L. Rain, City Clerk.
Ohio.....	Cleveland.....	December 18.....	Constructing sewer in Fairfax road.....	F. A. Pease, Eng'r Co. Cleveland.
Florida.....	Gainesville.....	December 18.....	Constructing sewage disposal plant.....	Wm. W. Lyon, Consulting Eng'r.
Minnesota.....	Hibbing.....	December 18.....	Sewer system, inc. 30,411 yards earth and 882 rock excavation, 14,000 ft. various size pipe, 47 manholes, flush tanks, catch basins, etc.....	Miles Gaudsey, Village Recorder.
Ohio.....	Cincinnati.....	December 19, noon.....	Building sewers and drains in seven streets, estimated cost, \$32,500.....	C. N. Dannenhower, Engineer.
Oregon.....	Klamath Agency.....	December 28, 2 P.M.....	Constructing sewer system.....	Horace G. Wilson, Superintendent.
New York.....	Syracuse.....	January 2.....	Constructing sewer system, Elmwood Dist.	H. H. Brewster, Engineer.
Manitoba.....	Winnipeg.....	January 4.....	Constructing \$72,000 concrete trunk sewer.....	H. N. Ruttan, City Engineer.
Missouri.....	Rolla.....	January 7.....	Constructing sewers; cost, \$10,000.....	McRae & Harris, Engineers.
Kansas.....	Wichita.....	January 21, 5 P.M.....	B'ld'g storm water sewer No. 5; cost \$318,000	R. N. Dorr, City Clerk.
Ohio.....	St. Mary's.....	January 10.....	Complete sanitary sewer system, 14 miles.....	Riggs & Sherman, Toledo, Eng'rs.
Iowa.....	Burlington.....	March 18.....	Constructing sewers in certain streets.....	John F. Winters, City Engineer.

## Public Buildings

New York.....	Middletown.....	December 12, 3 P.M.....	Two 150 h. p. boilers, State Hospital.....	T. E. McGarr, Capitol, Albany.
Texas.....	Marshall.....	December 13.....	Two-story and basement City Hall; cost, \$40,000.....	H. S. Bruce, City Sec'y.
Idaho.....	Boise.....	December 15, 11 A.M.....	Erecting four buildings, electric wiring, etc.....	Maj. R. B. Turner, Q. M.
Ohio.....	Nottingham.....	December 15, noon.....	Erecting and equipping school building.....	Searles, Hirsch & Gavin, Cleveland.
District of Columbia.....	Washington.....	December 15, 2 P.M.....	Steel framing U. S. Senate office building.....	Elliott Woods, Supt. Capitol.
New York.....	New York.....	December 17, 10 A.M.....	Erecting police station, etc., 10th Precinct.....	T. A. Bingham, Com'r.
New York.....	New York.....	December 17, 11 A.M.....	Alterations, heating apparatus, etc., 5 schools	C. B. J. Snyder, Superintendent.
Iowa.....	Cherokee.....	December 18.....	Erecting a city building.....	D. W. McNeal, City Clerk.
Iowa.....	Vinton.....	December 18, 2 P.M.....	Electric fixtures, etc., County Court House.....	A. H. Turner, County Auditor.
Kentucky.....	West Liberty.....	December 20, 10 A.M.....	Erecting a Court House.....	Court House Building Committee.
Ohio.....	Columbus.....	December 20, noon.....	Technical bldg., Girls' Industrial Home.....	Marriott & Allen, Architects.
New Jersey.....	Atlantic City.....	December 20, 3 P.M.....	Additions and alterations, U. S. Post Office.....	J. K. Taylor, Washington, D. C.
Louisiana.....	Shreveport.....	December 20.....	Erecting \$75,000 City Hall.....	C. G. Rives, City Comptroller.
New Jersey.....	Gloucester City.....	December 21, 8 P.M.....	Erecting primary school building.....	H. N. Moffett, Camden, Arch.
Ohio.....	Lakewood.....	December 22, noon.....	Erecting and equipping school building; also for furnishing desks and furniture in buildings.....	L. W. Thomas, Cleveland, Arch.
Ohio.....	Columbus.....	December 24.....	Erecting amphitheater on State Fair Grounds to cost \$45,000 or \$50,000.....	Linthwaite & Holbrook, Archs.
Illinois.....	Princeville.....	December 26.....	Erecting 8-room brick school building.....	Parr & Hulsebus, Peoria, Archs.
Louisiana.....	Covington.....	December 29, noon.....	Erecting school building.....	Dr. C. Z. Williams, Mayor.
Georgia.....	Savannah.....	December 31.....	Erecting three-story high school.....	Owens & Cisco, Baltimore, Md. Arch.
Georgia.....	Cordele.....	December 31.....	Two-story Court House and jail; cost, \$80,000	Lockwood Bros., Columbus, Archs.
Wisconsin.....	Brodhead.....	December 31.....	Erecting \$30,000 High School.....	F. H. Kemp, Beloit, Architect.
Rhode Island.....	Newport.....	January 7, 3 P.M.....	Building extension to U. S. Post Office.....	J. K. Taylor, Washington, D. C.
Iowa.....	Leon.....	February 1.....	Erecting \$75,000 Court House.....	A. S. Thorp, Clk. Dist. Court.
Virginia.....	Richmond.....	February 1.....	Fire-proof high school building, 180 x 220 ft.; estimated cost, \$500,000.....	Charles W. Bryant, Architect.
North Dakota.....	University.....	February 5.....	Library building State University, cost, \$60,000	J. W. Wilkerson, Sec'y Bd. Trustees.
Ohio.....	Marion.....	April 1.....	Four-story addition to school; cost, \$10,000.	Geo. B. Christian, Jr. Clerk, Bd. Ed.

## Bridges

New York.....	New York.....	December 13, 2 P.M.....	Constructing viaduct, Queens approach, Blackwell's Island bridge.....	J. W. Stevenson, Bridge Com'r.
Washington.....	Spokane.....	December 14.....	Building bridge across river at D st.....	County Commissioners.
Indiana.....	Newport.....	December 15, 10 A.M.....	Building highway bridge over Wabash River.....	H. T. Payne, County Auditor.
Tennessee.....	Carthage.....	December 15, noon.....	Constructing 60-ft steel highway bridge.....	W. E. Myer, Agent.
South Dakota.....	Sioux Falls.....	December 15.....	Erecting and repairing all bridges.....	C. E. Hill, County Auditor.
Massachusetts.....	Fall River.....	December 17, noon.....	Building steel bridge, 920 ft. long, stone piers and abutments, approaches, etc.....	Jas. F. Jackson, Chm. Joint Bd State House, Boston.
New York.....	Albany.....	December 10, noon.....	Building bridges, State barge canal work.....	H. A. Van Alstyne, State Eng'r.
Connecticut.....	Bridgeport.....	December 20, noon.....	Placing iron girders and beams under bridge.....	Patrick Kennedy, Dir. Pub. Wks.
Illinois.....	Chicago.....	December 21, 11 A.M.....	Erecting N. Halsted St. canal bridge.....	Wm. L. O'Connell, Com. Pub. Wks.
Ohio.....	Toledo.....	December 27.....	Erecting two bridges.....	Lucas County Commissioners.
West Virginia.....	Charleston.....	December 27, 8 P.M.....	Constructing highway bridge.....	J. F. Hudson, Chm. Bridge Com.
Indiana.....	Greenfield.....	December 20, 10 A.M.....	Building 112-ft. span bridge; also 30-ft. steel and concrete bridge.....	W. J. Garriott, County Auditor.
Nebraska.....	York.....	January 7.....	Building wooden or steel bridges in county.....	County Clerk.

## Miscellaneous

Ohio.....	Toledo.....	December 13.....	Four second-size fire engines, two trucks.....	I. E. Knisely, Bd. Pub. Safety.
Ohio.....	Canton.....	December 14, noon.....	Improving fire alarm and police telephone and telegraph systems.....	Henry Paulus, Clk. Bd. Pub. Safety.
Wisconsin.....	Milwaukee.....	December 15.....	Lighting streets with incandescent, gasoline and gas lamps, 60 candle power.....	P. J. Koehler, Comptroller.
Indiana.....	Vevay.....	December 17, 2 P.M.....	Boiler and engine to operate generator.....	City Council.
Pennsylvania.....	Philadelphia.....	December 17.....	Street cleaning, modified great square plan.....	John R. Hathaway, Dir. D. P. W.
Maryland.....	Annapolis.....	December 18, 2 P.M.....	Motors, electrical supplies, etc., Naval Hosp.....	Bureau of Supplies and Accounts Navy Dept., Washington, D. C.
New Jersey.....	Irvington.....	December 18.....	Furnishing 1,000-ft. fire hose.....	Town Council.
New Jersey.....	Mt. Holly.....	December 18.....	Furnishing 12 arc lamps, 5 amperes, at 110 volts, and 200 incandescent lamps, 20 c. p., for lighting streets, for 1, 3 and 5 yrs. after April 1.....	Harry Hawkins, Jr., Township Clk.
Wisconsin.....	Milwaukee.....	December 20, 10.30 A.M.....	Installing electric light machinery in pumping station.....	C. J. Poetsch, Comr. Pub. Wks.
Missouri.....	Kansas City.....	December 24.....	Erecting steam heating plant.....	Frank M. Holcomb, County Clerk.
District of Columbia.....	Washington.....	December 26.....	Electric plant for equipping Capitol and other buildings.....	Elliott Woods, Superintendent.
New York.....	New York.....	December 27, noon.....	Building crematory or refuse destructor.....	George Cromwell, Borough Pres.
California.....	San Francisco.....	December 29.....	Sale of franchise for street car line.....	Board of Supervisors.
Mississippi.....	Greenville.....	December 31.....	Building 61-mile line for Greenville, Leland and Rolling Forks Co. Railway.....	W. R. Barksdale, Memphis, Tenn., President.
Kentucky.....	Carrollton.....	January 2.....	Dynamo, engine and new boilers for electric-light plant, estimate, \$25,000.....	R. L. Bartlett, City Engineer.
Indiana.....	Mt. Vernon.....	January 9, 3 P.M.....	Erecting Soldiers' and Sailors' monument.....	S. G. Howard, County Auditor.
California.....	Pasadena.....	January 10.....	Equipment for municipal electric-light plant.	Herman Dyer, City Clerk.
Virginia.....	Richmond.....	February 1, 5 P.M.....	Erecting bldgs., machinery, apparatus, pipes, etc., to rehabilitate and enlarge gas works.....	W. P. Knowles, Superintendent.

## STREET IMPROVEMENTS

**Mobile, Ala.**—The Board of Public Works has awarded to the Southern Bitulithic Company a contract for 40,000 square yards of paving; Mobile is the 142nd city to adopt bitulithic.

**Madison, Ill.**—Estimates will be secured for paving and sewers, at a cost of \$9,000.

**Attica, Ind.**—Council is arranging to pave certain streets.

**Salina, Kan.**—The city has awarded the Kansas Bitulithic Company a contract for 6,000 square yards of paving.

**Topeka, Kan.**—The City Engineer has prepared an estimate for repaving West Sixth avenue with brick, at \$1 per yard, asphalt filler, or 85 cents cement filler.—Jas. McCabe, City Engineer.

**New Albany, Ky.**—The Barber Asphalt Company has been awarded contract for laying a 30-foot roadway of asphalt, with a granitoid sidewalk and combination curb and gutter, together with a 5-foot grass plot on each side, at \$4.29 a front foot.

**New Orleans, La.**—Council has passed the following ordinances: directing that plans and specifications be prepared and that bids be advertised for paving Carondelet street, from Josephine to Jackson streets; accepting the bid of the Barber Asphalt Company for paving First street, from Camp to Chestnut; providing for the paving of Josephine street, from St. Charles to Carondelet; also for paving Peniston street, from St. Charles avenue to Magnolia street; providing for sidewalk paving on several streets in Algiers; plans and specifications have been prepared for paving, mostly asphalt, of the following streets: Milan, from St. Charles avenue to Franklin street; Garfield, from Peters avenue to Joseph street; Lapeyrouse street, from Claiborne to Gentilly road; Orleans, from Claiborne to St. Claude; Howard avenue, from St. Charles to Rampart; St. Charles avenue, from Carrollton avenue to Louisiana avenue; St. Roch avenue, from Chartres to St. Claude; Joseph street, from Prytania to Hurst; Prytania street, from Louisiana avenue to Joseph and Hurst street, from Joseph to Audubon Park; petitions are being considered for the paving of Charles avenue with Schillinger walk; Teche Foucher street with bitulithic; and for laying sidewalks in Patten street; the Finance Committee is considering acceptance of bid of the Barber Asphalt Company for subsurface drains in Saratoga street; ordinance accepting bid of the Sicilian Asphalt Company for paving with vitrified brick and laying system of subsurface in Palmer avenue was laid over; ordinances accepting bids of the Central Improvement and Contracting Company for improving First and Peniston street were sent back to the Streets and Landings Committee.—Capt. Hardee, City Engineer.

**Lee, Mass.**—It is proposed to raise \$15,000 for the construction of a State road around "Jacob's Ladder," the divide between the Housatonic and the Cumberland rivers, in Becket; Cortlandt Field Bishop and George Westinghouse have each offered \$1,000 toward the project; Engineer Joyner, of the State Highway Commission, is to make a survey.

**Omaha, Neb.**—The citizens have voted to issue \$60,000 paving and \$150,000 sewer bonds.

**Jersey City, N. J.**—James J. Cogan has been awarded contract for laying flagging in Fifty-second street, at \$1,326.28, and Mullen and Company contract for constructing sewer in West Fifty-first street, at \$1,841.20.

**Passaic, N. J.**—Council has passed ordinance to grade, curb and gutter, and to lay a sanitary sewer in Van Wickle avenue, from Highland avenue to President street; an ordinance is being considered to lay sewer in Highland avenue, from Lexington avenue to Barber avenue; also ordinance to improve Monroe street.—Thomas R. Watson, City Clerk.

**Trenton, N. J.**—About \$25,000 must be expended for roads to make the State Sanatorium for Tuberculosis Diseases at Glen Gardner accessible.—Address Board of Managers.

**Oneida, N. Y.**—Council will petition the Legislature for the purpose of legalizing \$11,000 bond issue for street improvements.

**East Liverpool, O.**—Residents along Pennsylvania avenue are urging that the street be paved from Boyce street to Dry Run; asphalt block and brick are both being considered; Ida street is to be sewered and paved; Monroe street is to be paved, and Third street to be graded and paved; the intersections of a number of other streets are also to be paved early in the spring.

**Mt. Gilead, O.**—Council has decided on the improvement of North Main street by paving with brick and setting curbs in a certain portion of the street; bids soon to be invited.—W. F. Wieland, Village Clerk.

**Mt. Vernon, O.**—Wm. M. Koons is Chairman of the Street Paving Committee, which will visit a large number of towns in Ohio relative to the proposed paving of East High street; the question of asphalt block is being considered.

**Newark, O.**—Bids for paving West Main street have been opened and range between \$25,000 and \$30,000; there are 24,000 square yards of street surface and two miles of curbing; a million brick will be required; W. S. Pace of Newcomerstown appears to be the lowest bidder; no contract has yet been awarded.

**Youngstown, O.**—Thirteen thousand dollars will be expended for repaving the McGuffey street viaduct.

**Altoona, Pa.**—An issue of \$100,000 street improvement bonds will be decided by vote at the spring election.

**Butler, Pa.**—It has been decided to defer the paving of Pierce street until early in the spring; water pipes are now being laid in that thoroughfare.

**Harrisburg, Pa.**—The Special Paving Committee has called for specifications for paving several streets.

**Washington, Pa.**—Bids have been advertised for the construction of five miles of road between Washington and Hill Church; State Highway Commissioner Hunter will open bids.

**Rock Hill, S. C.**—The town plans to lay \$40,000 worth of imitation stone sidewalks.—Address John G. Anderson.

**Nashville, Tenn.**—Bids will soon be advertised for the sale of \$150,000 bonds for the extension of Commerce street.

**Marshall, Tex.**—Arrangements are being made to spend \$100,000 in improving several streets.

**Chatham, Ont.**—A contract for 2,659 square yards of paving has been awarded to the Warren Bituminous Paving Company of Toronto.

## SEWERAGE

**Fayetteville, Ark.**—Sewer Improvement District No. 1 has been formed, and a system of sewerage will be installed, involving the issue of \$75,000 bonds.

**Los Angeles, Cal.**—All bids received for the construction of sewers received November 19 were rejected, and the city will complete the sewer itself; the bids were: Atlantic, Gulf and Pacific Company, \$333,000; E. C. Alsop, \$294,450; E. R. Fox, \$265,000.—Horace B. Ferris, Board of Public Works.

**San Jose, Cal.**—John McReynolds was low bidder on constructing sewer in Second Ward, at \$27,597, as follows: 6-inch pipe, 40 cents per lineal foot; Y-branches, \$1.20; 8-inch pipe, 47½ cents; Y's, \$1.50; 10-inch pipe, 55 cents; Y's, \$1.80; 12-inch pipe, 67½ cents; Y's, \$2.10; 14-inch pipe, 75 cents; Y's, \$2.60; 16-inch pipe, 87½ cents; Y's, \$3.15; 18-inch pipe, \$1.20; Y's, \$4.25; 21-inch pipe, \$1.70; Y's, \$6.15; 24-inch pipe, \$2.05; Y's, \$7.50; manholes, \$23.50 each; flushtanks, including flushing appliance, \$58.50; loam and clay to be excavated, average depth of trench, 8.20 feet; very little water to be handled; gravel streets to be relaid; wages of common labor, \$2 per day; city furnishes all cement; other bidders were: N. P. Glann, \$36,378; Chas. Wehner, \$27,700; Wm. Heafey, \$28,950; Cotton Bros. & Co., Oakland, \$37,000; estimate of City Engineer, \$28,000.—Chas. H. Pieper, City Engineer.

Chas. Wehner was low bidder on constructing sewer in Third Ward, at \$22,000, as follows: 6-inch pipe, 40 cents per foot, Y's, 35 cents; 8-inch pipe, 57 cents, Y's, 50 cents; 10-inch pipe, 80 cents, Y's, 65 cents; 12-inch pipe 80 cents; Y's 80 cents; 18-inch pipe, \$1.50, Y's, \$1.60; manholes, \$22 each; flushtanks, \$52 each; average depth of trench to bottom of sewer, 8.4 feet; material to be excavated, clay-loam, fine gravel and sand; some ground water to be handled; gravel roadways to be relaid; sheathing left in trench, \$20 per M.; wages of common labor, \$2 per day; city furnishes all cement; other bidders were: Cotton Bros. & Co., Oakland, \$26,146; C. D. Vincent, Oakland, \$28,149; Wm. Heafey, Oakland, \$22,690; N. P. Glann, \$32,587; estimate of City Engineer, \$22,750.—Chas. H. Pieper, City Engineer.

**Visalia, Cal.**—Plans have been prepared for repairing a portion of the present sewer system, and for the construction of a new outfall sewer, which will require 6,300 feet of 16, 18, and 20-inch sewer; bonds, \$35,000, will be voted for the work.—Morve L. Weaver, City Engineer.

**Parsons, Kan.**—The Plunkett Construction Company of Coffeyville has been awarded contract for building the North End sewer, complete, at \$12,950; other bidders were: W. W. Cook and Son, of Junction City, and C. F. Medaris; the Plunkett Company also has contract for building the septic tank, at \$2,350; other bidders were: W. N. Cook and Son, A. C. Schnerkert, W. J. Langston, and J. J. Reiling; C. F. Medaris was awarded contract for building sewer through blocks 151 and 152, at \$884.95; other bidders were: W. W. Cook and Son, and McCaffrey and Williams.

**Baltimore, Md.**—The Board of Awards opened bids, November 28, for sewage pumps, as follows: Allis-Chalmers Company, Milwaukee, Wis., through its Baltimore office, \$473,000 for type A; Holly Manufacturing Company, Buffalo, N. Y., \$479,000 for type B; William Todd Company, Youngstown, Ohio,

\$484,400 for type C; Camden Iron Works, Camden, N. J., \$485,000 for type C; Bethlehem Steel Company, South Bethlehem, Pa., \$450,000 for type C; the bids were referred to the Sewerage Commission for tabulation.—Calvin W. Hendrick, Chief Engineer.

**St. Paul, Minn.**—Keough Brothers were low bidders on the South street sewer system, at \$85,000; Ryan and Johnson, John Lind, and James Forrestal Company were the other bidders.

**Fairbury, Neb.**—The City Clerk has been ordered to advertise for bids for 4,032 lineal feet of 8-inch sewer for Districts 4 and 5.—W. W. Walton, City Engineer.

**East Rutherford, N. J.**—The Borough Council will make efforts to arrange with the Borough Council of Carlstadt for the construction of a joint sewer.

**Ft. Lee, N. J.**—No bids will be received for several months on the proposed sewerage system.—Daniel W. McAvoy, Mayor; C. H. Eckerson, Englewood, City Engineer.

**Bucyrus, O.**—Wm. T. McDonald, Chairman of the Board of County Visitors, has reported to the Probate Court a radical deficiency in the sewerage and drainage of the buildings at the County Infirmary; an entirely new system is recommended.

**Celina, O.**—The Crampton and Son Company has made a proposition to the Council relative to the construction of a small sewer system in conformity to the Reynolds petition; it is understood that the Council will authorize the construction of this sewer.

**Chardon, O.**—Work has commenced on the construction of the first sewer in Geauga County; it will be half a mile in length.

**Chillicothe, O.**—Engineer Redd has been granted permission by the State Board of Health to construct a storm sewer into the Park Lake at the Foot of Mill street; the present sewer is inadequate; 1,230 feet of new construction will be made, at a cost of \$2,000.

**Cincinnati, O.**—Citizens of Elmwood place are asking their Council to reconsider the matter of constructing the sewer system; at a recent meeting of the Lockland Council Albert Rolof, the Clerk, was instructed to notify Contractor Stewart to proceed with the construction of the village sewer system of that town.

**Cleveland, O.**—M. F. Bramley has the contract for receiving basins and a sewer system for the village of River Rouge, Mich., and a sewer system costing \$148,500.

**Columbus, O.**—The South Side Business Association has asked Council to give the district in High street to Parsons avenue an improved and enlarged sewer system.

**Cuyahoga Falls, O.**—Councilman Schoaf has suggested the construction of a 32-inch storm sewer through the city, and the Council will act on this suggestion at an early meeting.

**Dayton, O.**—Frederick Kromer is the successful bidder for the sewage station on Longworth street, and the Dayton Hydraulic Machinery Company has the contract for the pumping machinery.

**East Liverpool, O.**—Plans and estimates are to be prepared at once for sanitary sewers and storm sewers on half a dozen streets; one storm sewer alone on Sixth and Seventh streets will cost about \$17,000; this sewer system will be built early in the spring; the South Side Land Company has made formal application for a franchise to construct a sewer system from Fourth to First street.

**Findlay, O.**—The ordinance to issue bonds to improve Cherry street by constructing a sanitary sewer has passed its first reading.

**Norwalk, O.**—The Council has decided on the construction of a sewer 2,500 feet long on Pine street; plans are now with the engineer and a bond issue for this purpose has been arranged for.

**Oberlin, O.**—Bids for constructing the sewer extension have been rejected and Engineer Gerrish will advertise for new bids.

**Painesville, O.**—The State Board of Health has declined to accept fully the plans for the sewer system and will insist on the plan of separating the domestic sewage from the storm water; with this modification the system will be constructed in the spring; it was also decided to have the park paving contractors put the roadway around the park in a passable condition during the spring.

**Perrysburg, O.**—C. W. Ryan is the lowest bidder for the construction of the storm water sewer.

**Portsmouth, O.**—The Board of Health will shortly take up the matter of the drainage at the N. & W. terminals.

**Ravenna, O.**—City Solicitor S. F. Hauselman reports that he has been unable to secure the services of a contractor to complete the work of the Ravenna sewer system which was thrown up by the Hanlon Construction Company, of Cleveland. The system was designed by the Walter P. Rice Engineering Company, of Cleveland.

**Salem, O.**—Plans have been prepared by Chapin and Knowles, of Pittsburg, Pa., for the septic tank system, estimated to cost \$33,000.



## WATER SUPPLY

**Fayetteville, Ark.**—Water Improvement District No. 1 has been formed, to acquire the present system of waterworks and extend and improve same, involving issue of \$125,000 bonds.

**Blytheville, Ark.**—A franchise has been granted the Blytheville Electric Light, Water and Street Car Company to establish a waterworks and electric-light plant.

**Washington, D. C.**—The H. Mueller Manufacturing Company was awarded contract for 3,000  $\frac{3}{4}$ -inch corporation cocks and 500 1-inch curb cocks, at \$7,054; the Thomas Somerville Company was the next lowest bidder, at \$7,055.—W. H. McFarland, Superintendent of the Water Department.

**Ada, Ark.**—An issue of \$40,000 bonds for building a water plant is under consideration.

**Brunswick, Ga.**—The purchase of the local electric-light and waterworks plant is being considered by the city.—Address the Mayor.

**Paris, Ill.**—The City Water Board has under consideration the establishment of water meter system.

**Springfield, Ill.**—The Desnoyer Shoe Company will build a steel water tower and tank for fire protection; estimated cost, \$12,000.

**Huntington, Ind.**—Council has under consideration the matter of issuing \$25,000 bonds to improve the water system by drilling four wells which are to be equipped with pump run by electricity.

**Colgate, I. T.**—The citizens have voted to issue \$27,000 school and \$14,000 waterworks bonds; the bonds have been approved by the Secretary of the Interior.

**Alliance, O.**—John Calkins has been awarded the contract for drilling test water wells for the city waterworks plant, at \$5,000.

**Cuyahoga Falls, O.**—Council authorizes a \$10,000 expenditure for new apparatus in the pumping and lighting station.

**Artesia, N. M.**—The American Light and Water Company, of Kansas City, has been awarded contract for constructing water system; S. A. Kean of Chicago has purchased \$50,000 bonds issued for the purpose.

**Buffalo, N. Y.**—The improvement of the pumps at the waterworks pumping station is recommended.—F. G. Ward, Commissioner of Public Works.

**New York, N. Y.**—The Corporation Counsel has advised the Board of Water Supply that, owing to a certain error in procedure relating to plans, it should not receive bids, December 3, for constructing the Catskill aqueduct, for which \$10,000,000 was appropriated by the Board of Estimate and Apportionment, and bids were not received and not opened; bids will be readvertised in the near future.—J. Edward Simmonds, President, Board of Water Supply; J. Waldo Smith, Chief Engineer.

**Lumberton, N. C.**—The city is considering the issuance of \$30,000 waterworks and sewerage bonds, and \$5,000 electric-light bonds.

**Carrington, N. Dak.**—Loweth & Wolff, of St. Paul, have completed plans for water system; the question of issuing bonds will be submitted to the voters.

**Mandan, N. D.**—The Northern Pacific Railway proposes to establish a water system, at a cost of \$60,000.

**Hamilton, O.**—Bids will be received, December 19, noon, for \$115,000 4 per cent., 20-year bonds for enlarging, improving and repairing the municipal waterworks.—Thad Straub, City Auditor.

**McKeesport, Pa.**—M. J. Quinn, Fire Chief, recommends the extension of water mains in the East End.

**Brookings, S. D.**—Bonds have been voted for establishing a water supply plant.

**Chattanooga, Tenn.**—A special committee has been appointed by Council to take up the matter of issuing \$800,000 bonds for municipal improvements.

**Marlin, Tex.**—Bonds, \$16,000, have been authorized for a waterworks system.

**Mineral Wells, Tex.**—The Attorney General has approved an issue of \$8,000 sewer and waterworks bonds.

**Brattleboro, Vt.**—The citizens have voted not to ratify the agreement between the Water Board and George E. Crowell for the purchase of the two water systems controlled by Mr. Crowell, for \$275,000, and the systems will now be completed by Mr. Crowell; a bill for a charter allowing the city to buy or construct a water system is pending in the Legislature.

**Richmond, Va.**—J. L. Lindsay was, on December 3, awarded contract by the Committee on Water, to furnish Keystone meters, as follows:  $\frac{3}{4}$ -inch \$7.97,  $\frac{1}{2}$ -inch \$11.97, and 1-inch \$15.96; other bidders were: H. B. Freshkorn, Hersey disc meters,  $\frac{3}{4}$ -inch \$8.40,  $\frac{1}{2}$ -inch \$12.60, 1-inch \$16.80; G. & A. Bargamon Company, Lambert meters,  $\frac{3}{4}$ -inch \$8.40,  $\frac{1}{2}$ -inch \$12.60, 1-inch \$16.80; Southern Railway Supply Company, Trident meters,  $\frac{3}{4}$ -inch \$8.40,  $\frac{1}{2}$ -inch \$12.60, 1-inch \$16.75; Smith Courtney Company, Worthington disc meters,  $\frac{3}{4}$ -inch, model B, \$6.57, model C \$7.13;  $\frac{1}{2}$ -inch \$11.52, 1-inch \$15.37.

## LIGHTING AND ELECTRICITY

**Demopolis, Ala.**—The City Council is considering the question of issuing bonds for an electric-light plant.

**Gadsden, Ala.**—The city will vote, December 31, on an issue of \$20,000 school bonds, to take the place of the \$15,000 recently voted; Steiner Brothers, of Birmingham, have agreed to purchase the bonds.

**Sacramento, Cal.**—The City Trustees are in favor of establishing a municipal electric plant.—R. M. Beard, Mayor.

**San Bernardino, Cal.**—The County Board has decided to erect a plant to furnish heat, light and power for public buildings; the plans will cost \$400,000.

**Wilmington, Del.**—The Commercial Light, Road and Power Company will expend \$50,000 in improving its plant.

**Elgin, Ill.**—The Merchants' Power and Light Company has accepted the ordinance granting them franchise, and will be re-organized and its capital stock increased from \$2,500 to \$100,000; for the present the company will rent power plant already constructed, and will install generators and improve the lines.

**Washington, Ill.**—Geo. W. Meyers is preparing to install an electric light plant; a company will petition for a franchise.

**New Castle, Ind.**—Council has taken steps for improving the city light and water plant; improvements will cost \$6,000.

**Vincennes, Ind.**—The Central Foundry Company has decided to adopt electricity as the motive power of their plant.—C. L. Rundel, Manager.

**Humboldt, Kan.**—M. W. Miller, representing the South Western Traction Company, has petitioned for franchise to construct and operate an electric-light plant.

**Amite City, La.**—The Central Light and Power Company has been incorporated, and the rights of the Tangiphoa Light and Power Company purchased.—J. P. McClenden, President.

**Franklin, La.**—The Council proposes to issue bonds for an electric-light plant.

**Wymore, Neb.**—H. T. Clark, Jr., of Omaha, has been granted a franchise to establish an electric-light plant.

**Trenton, N. J.**—The Jaehing Gas Fixture Company, of Newark, has been awarded contract for electrical fixtures at the State Sanatorium for Tuberculosis Diseases, at Glen Gardner, for \$1,437.

**Lancaster, N. Y.**—A contract has been signed by Town President Feyler with the Niagara, Lockport and Ontario Power Company, for furnishing power to the town.

**Rockaway, N. Y.**—Council has purchased an electric-light plant owned by the Rockaway Electric Light Improvement Company.

**Omaha, Neb.**—The Omaha Electric Light and Power Company has purchased a site on Auburn Hill on which to build a \$10,000 power station.

**Fairport, N. Y.**—The question whether or not to purchase additional dynamo and engine for the municipal lighting and power plant will be submitted to the voters.

**Ravenna, N. Y.**—The West Shore Electric Company has received a franchise to furnish the city with electricity from Ravenna to Coeymans.

**High Point, N. C.**—Council proposes to purchase engines, generators and switchboards for the lighting plant.—N. J. Whenn, Mayor.

**Bryan, O.**—President Starr, of the Board of Public Service, has recommended to the Council the propriety of bonding the town for \$30,000 to properly equip the electric-light and waterworks plant; a new boiler and new engines will be required and other parts of the plant will be repaired.

**Cuyahoga Falls, O.**—The Board of Public Affairs estimates that it will cost \$9,000 to put the electric-lighting plant in a suitable condition; a new engine is required and it is proposed to put the system on a one phase basis; Hans Grell has been awarded the contract for the new waterworks' reservoir, at his bid of \$2,850; a big cistern will be built near the east side power building.

**Eaton, O.**—Judge Elam Fisher is chairman of the newly organized Board of Directors of the new electric-lighting company capitalized at \$20,000, which proposes to construct an electric-lighting plant.

**Lakewood, O.**—The Cleveland Electric Illuminating Company proposes to purchase the Lakewood municipal lighting plant.

**Manchester, O.**—The Citizens Light Company has been incorporated by John. E. Lea, E. A. Heckel, and others.

**Port Clinton, O.**—A franchise has been granted to the Port Clinton Electric Light and Power Company to maintain and operate an electric-light and power plant.

**Salem, O.**—Council has granted a franchise to the Youngstown and Ohio River Railway and Light Company to furnish electric-light and power in Salem.

**Mangum, Okla.**—The question of issuing \$30,000 bonds for a light plant and waterworks will soon be voted upon.

## FIRE EQUIPMENT AND SUPPLIES

**Burlington, Ill.**—Council has directed plans to be prepared for the erection of a hose house at the North Hill fire station.

**Rockford, Ill.**—The Fire and Police Committee recommends the erection of a fire station at the east end of the city.

**Kansas City, Kan.**—The Fire Chief recommends the purchase of several new fire engines and other apparatus.

**Parsons, Kan.**—Plans and specifications have been adopted by Council for a fire station, to be erected on the West Side, and bids are invited; all bids for tearing down old fire stations and re-erecting same on new site received November 26 were rejected as too high, J. W. Prince being low bidder, at \$3,637; other bidders were: McBride and Baty, W. E. Wibner, A. C. Schneickert, B. F. Kern, and John F. Reiling.—Address Mayor Gabriel.

**New Orleans, La.**—Plans and specifications are being prepared for a brick engine house for No. 5 company.—Wm. J. Hardee, City Engineer.

**Janesville, Minn.**—A disastrous fire occurred at this place; the fire apparatus was destroyed; more will be purchased.

**Woodstock, Minn.**—A fire company has been organized, and apparatus will be purchased.

**Columbus, Miss.**—Council has voted to issue bonds to improve the Fire Department.

**Searchlight, Nev.**—Arrangements are being made to secure fire protection for the city.

**Irvington, N. J.**—The city proposes to purchase a combination wagon and team, also to reorganize the department into a paid company.

**Passaic, N. J.**—Council has directed the Committee on Fire Department to advertise for bids to supply the city with not less than 1,000 or more than 2,000 feet of rubber or fabric hose.—Hugh Waters, Fire Chief.

**Nelliston, N. Y.**—A fire company is being organized; it is proposed to build a fire house and purchase fire apparatus.—Daniel Dahlan, Secretary.

**Toledo, O.**—The Board of Education has decided to advertise for bids for 300 fire extinguishers, to be placed in public schools.

**Sewell's Point, Va.**—L. N. Tignor, of Hampton, has contract, at \$14,200, for the erection of fire-engine house, ambulance quarters and livery stables, on the Jamestown Exposition grounds.

**Milwaukee, Wis.**—Council has authorized the purchase of an aerial truck and other apparatus for the Fire Department.

## PUBLIC BUILDINGS

**Gadsden, Ala.**—An election will be held December 31 to decide the question of issuing \$20,000 school bonds.

**Jonesboro, Ark.**—The citizens have voted \$50,000 bonds for erecting a schoolhouse.

**Washington, D. C.**—Richardson & Burgess bid \$92,277 for the erection of two buildings at the Boys' Reform School, which were destroyed by fire and for which Congress made an appropriation of \$100,000; Pavarin & Wyne bid \$92,694.

**Kiowa, I. T.**—The city has voted \$3,000 bonds for erection of school building.—C. E. Culbertson, Secretary of the School Board.

**Charles City, Ia.**—Snyder Brothers have been awarded contract to furnish a new heating plant for the Floyd County Court House and jail, for \$1,089.

**Emmettsburg, Ia.**—The citizens of Palcatto county have voted to issue bonds for constructing a Court House.

**New Orleans, La.**—The Comptroller has been directed to readvertise for bids for the construction of the uptown branch library.—City Engineer Hardee.

**New Bedford, Mass.**—The School Board has recommended an issue of \$225,000 bonds for the erection of a schoolhouse.—Thomas Thompson, Mayor.

**Mathison, Miss.**—The citizens have voted \$12,000 bonds for erecting a schoolhouse.

**Rochester, N. H.**—Maguire & Paurman, Providence, R. I., were low bidders for building new City Hall, at \$53,600, and they were awarded contract.

**Highland Park, N. J.**—Bids are invited for \$15,000 building bonds.—Charles Nourse, District Clerk, P. O., New Brunswick.

**Jersey City, N. J.**—Council has appropriated \$49,500 for additions to the High School and No. 4 School.

**Cleveland, O.**—All bids received November 29, for the construction of the Industrial Building at the State Hospital, were in excess of the appropriation and were rejected.—A. B. Howard, Superintendent.

**Chattanooga, Tenn.**—The Legislature will be asked to authorize the issue of at least \$125,000 bonds to erect a new City Hall, establish new parks, to complete the Ninth Ward sewerage system, to build a new fire hall, and for other purposes.

**Roby, Tex.**—The citizens of Fisher county have voted \$50,000 bonds for erecting a Court House.

## STREET RAILWAYS

**Pine Bluff, Ark.**—Council has passed an ordinance requiring the Citizens Light and Transit Company to place heating apparatus in all cars operated in the city.

**Atlanta, Ga.**—The Atlanta Railway and Electric Company proposes to build a toll line to Buck Head.

**Rome, Ga.**—S. S. Bush and a syndicate of Louisville, Ky., capitalists have purchased the city electric railway and lighting plants from J. L. Bass and associates, for \$382,000, paying \$182,000 in cash and the remainder in bonds.

**Champaign, Ill.**—The Springfield Belt Railway Company has been incorporated to build a line around Springfield, Jacksonville and Lincoln.

**Brazil, Ind.**—The Terre Haute Traction Company will build a power house in the near future.

**Columbus, Ind.**—The Columbus, Greenburg and Richmond Traction Company has been reorganized to build an electric line from Columbus to Richmond.—August M. Kuhn, Indianapolis, President.

**Mt. Carmel, Ind.**—The Evanston and Mount Carmel Northern Railway Company has been incorporated with a capital stock of \$10,000 to build a road from Mt. Carmel to Evanston.

**Oskaloosa, Ia.**—The Oskaloosa Buxton Interurban Railway has purchased the Oskaloosa Traction Company for \$95,000; improvements will be made.

**Donaldsville, La.**—F. S. Schneideau has been granted a franchise to construct, own and operate an electric street railway, work to be started within the next twenty-four months.—Charles Maurin, Mayor.

**Bangor, Me.**—The Augusta, Winthrop and Gardiner Street Railway has been purchased by General Manager John R. Graham, of Bangor, head of a syndicate backed by New York and Philadelphia capital; it is intended ultimately to consolidate all the electric lines in Maine.

**Baltimore, Md.**—The Maryland Electric Railway Company has let the contract for the building of forty high-speed cars of the semi-convertible type to the J. G. Brill Company, Philadelphia, for about \$6,000 each; the cars will be used by the United Railways and Electric Company on the Sparrows Point line.

**Traverse City, Mich.**—W. F. Vieverman has petitioned Council for a franchise to build and operate an electric line.

**Mankato, Minn.**—The promoters of the proposed Minneapolis and Dubuque Railway propose to extend the electric line from Mankato to Faribault.

**Minneapolis, Minn.**—The Minneapolis and St. Paul Suburban Railway Company proposes to extend its line to Robinsdale and to Anoka.

**Virginia, Minn.**—The Mesaba Traction Company propose to build an electric line from Eveleth to Virginia City.

**Albany, N. Y.**—The directors of the Forest Park Railway Company will extend the railway to the Forest Park Cemetery.

**Concord, N. C.**—Franchise has been granted to the Concord Realty Railroad Company to build a street line.—C. W. Johnson, President.

**Cleveland, O.**—The Cleveland Alliance and Mahoning Valley Traction Company has been organized; the new line will have 45 miles of road.—David Morrison, President; S. J. Moreley, Secretary.

**Columbus, O.**—The Columbus, Delaware and Magnetic Springs Electric Railway Company has voted \$200,000 bonds for the construction of a road.

**Marion, O.**—Estimates are being prepared for paving South Prospect street.

**Tecumseh, Okla.**—The Tecumseh and Norman Traction Company, which was recently organized, will build an electric line from Tecumseh across Pottawatomie and Cleveland counties to Norman, at an estimated cost of \$650,000.—George Weed, of New York City, James T. Butler, of Tecumseh, and others, Incorporators.

**Ennis, Tex.**—Council has granted a franchise to the Central Texas Traction Company to build its interurban electric lines in the city streets.

## BRIDGES

**Los Angeles, Cal.**—A \$40,000 steel concrete bridge will be built immediately over Arroyo de los Posos at Macy street; a bridge will also be built over the Los Angeles river at Seventh street.

**Joliet, Ill.**—The Joliet and Southern Traction Company has submitted plans to the Council for a bridge; the new structure has a 22-foot roadway, together with 6-foot walks on either side, giving a total width of 34 feet, and will be modern in all respects.—Lee B. Fisher, Chief Engineer.

**Rockford, Ill.**—Council is considering the erection of a bridge across Kent creek at Peach street.

**Youngstown, O.**—Bids will be received, December 17, for \$13,500 4½ per cent. bonds for repairing the McGuffey street viaduct.—Address County Commissioners.

**Point Marion, Pa.**—The Courts of Fayette county have approved the reports of viewers and the recommendations of the grand jury for the building of a new bridge across Cheat river at Point Marion.

**Scranton, Pa.**—The city has decided to build a viaduct and several new bridges; estimated cost, \$500,000.

**Memphis, Tenn.**—The street car bridge over Wolf river on the Raleigh line was condemned as unsafe; the county bridge over the same stream near there is gone, and the company is only operating its cars to the trestle work.

**Eagle Lake, Tex.**—The matter of building an iron bridge across the Colorado river at Eagle Lake is under consideration.

**Fort Worth, Tex.**—The city of North Ft. Worth will, in a short time, construct a substantial iron bridge across Marine creek on Exchange avenue.

**Superior, Wis.**—City Engineer Banks has completed plans for the reconstruction of the fourth street bridge across the Nemadji; estimated cost, \$19,000.

**Charleston, W. Va.**—The citizens have voted \$25,000 4½ per cent. bonds for a bridge across the Elk river.—W. A. Hogue, City Engineer.

**Casper, Wyo.**—The Wyoming and Northwestern Railway will construct five Howe street truss bridges between Casper and Lander.

## MISCELLANEOUS

**Los Angeles, Cal.**—Every proposition to issue bonds failed to receive the necessary two-thirds vote.

**Wichita, Kan.**—An ordinance is before Council authorizing an issue of bonds for public improvements.

**Alexandria, La.**—The Red River, Atchafalaya and Bayou Boeuf Levee Board has awarded the drainage work from Bayou Jack to Catahoula river, a distance of thirty miles, to the Gulf Dredging and Timber Company, Limited, of New Orleans, to cost about \$150,000; a contract has also been made with the Board of Control of the State Penitentiary to construct two miles of levee on the Atchafalaya river, to cost \$33,000.

**Annapolis, Md.**—The contract for reinforced concrete work for the power house at the Naval Academy was awarded by the Secretary of the Navy to the Ferro-Concrete Company, of Baltimore, the lowest bidder, at \$54,930.

**Jersey City, N. J.**—Henry Byrne has been awarded contract for the removal of ashes and garbage for the fiscal year which began December 1, at \$57,200; Thomas Harrington & Sons Company bid \$69,000; the amount of the contract will be deducted from \$175,000 appropriated for street cleaning, leaving \$117,800 to Martin F. Quinn for this purpose.—Street and Water Board.

**Rochester, N. Y.**—Titman and Cooper, who expect to form the Empire Reduction Company, were the low bidders for the five-year garbage contract, at \$59,770, if the reduction plant can be located within the city limits, and \$75,000 if the plant must be placed in one of the towns; other bids were: Thomas W. Holahan, \$96,000 per year; Charles W. Hartung, \$60,000 per year, the city to provide the reduction plant, and Chas. Edgerton, of Philadelphia, Pa., \$90,000 per year.

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## INCORPORATIONS

**Allegany Facing Brick and Concrete Co.**, Wellsville, N. Y.; to manufacture brick and concrete blocks. Capital, \$40,000. Incorporators: Orris C. Parker, Henry F. Horn, George W. Rice, Felix H. Schneble, Wellsville, N. Y.; W. S. Calhoun, Genesee, Pa.

**American Public Uses Corporation**, Philadelphia, Pa.; to furnish water, light, heat and power for all kinds of purposes, either public or private use. Capital, \$1,000,000. Incorporators: W. H. Spousler and M. P. Reed, Philadelphia; Christopher L. Ward, Wilmington, Del.

**Ashokan Reservoir Indemnification Co.**, New York City; to furnish information, legal services, etc. Capital, \$50,000. Incorporators: M. A. Jones, 20 Broad street; M. M. Miller, 223 East 60th street; J. J. Hegt, 208 East 83rd street, all of New York.

**Austin-Smith Engineering Co.**, Baltimore, Md.; to manufacture, sell and deal in mechanical and electrical specialties. Capital, \$50,000. Incorporators: R. Lee Slingluff, Baltimore, Md.; W. H. Smith, Rowland Park, Md.; Sydney B. Austin, Pikesville, Md.

**Doherty Operating Co.**, New York City; engineering and construction. Capital, \$100,000. Incorporators: Paul R. Jones, J. Charles Andrews, M. R. Bump, 60 Wall street, New York.

**Ever-Ready Fire Extinguisher Co.**, 15 Exchange place, Jersey City, N. J.; to manufacture fire extinguishers, etc. Capital, \$100,000. Incorporators: John H. Costello, 100 York street; George H. Draper, Lafayette Hotel; Charles Brent, Niagara Hotel, all of Buffalo, N. Y.

**International Light Co.**, Chicago, Ill.; to manufacture and generate electricity for light, heat or power. Capital, \$150,000.

**Kern Auto Street Sweeper Corporation**, New York City; to manufacture street and road sweepers. Capital, \$10,000. Incorporators: George N. Gardiner, 15 William street; William H. Gray, 6 Wall street; Asa Bird Gardiner, 60 New street, all of New York, and others.

**Keystone Ventilating Co.**, 317 Market street, Camden, N. J.; mechanical and electrical engineers, etc. Capital, \$50,000. Incorporators: E. L. Marple, Frank Adams, Jr., M. M. Wilson, as above.

**Louis Duncan and Company, Inc.**, New York City; contracting, electrical works, etc. Capital, \$100,000. Incorporators: Robert F. Routh, John A. L. Campbell, Arthur B. La Far, 60 Wall street, New York.

**United States Construction and Utilization Co.**, Rochester, N. Y.; reduction plant, dispose of garbage and refuse. Capital, \$250,000. Incorporators: Charles D. Leonard; Frank W. Zoller, Rochester, N. Y.

**Van Rensselaer Construction Co.**, 15 Exchange place, Jersey City, N. J.; contractors, engineers, surveyors, etc. Capital, \$250,000. Incorporators: John A. Van Rensselaer, H. O. Coughlan, John R. Turner, as above.

**Winona Portland Cement Co.**, Epes, Ala. Capital, \$1,000,000. Incorporators: A. G. Parrish, president; J. P. Weatherbee, Waynesboro, Miss., vice-president; Houston Armstrong, Selma, treasurer; George W. Carter, Jr., Meridian, assistant treasurer; W. N. Vaughn, G. W. Cater, Jr., J. F. Hooper, and N. Waller, directors.

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## PERSONALS

COOTE, A. W., Chief Engineer of the Fire Department of St. Albans, Vt., recently resigned, and will make his future home in Goldfield, Nevada.

DANIELS, FRANK T., Engineer of Drafting of the Sewerage Commission of Baltimore, Md., has resigned and will return to Boston, Mass.

DE HAVEN, SAMUEL R., has been appointed Sealer of Weights and Measures of Toledo, O., by Mayor Whitlock at a salary of \$1,500 per annum.

DOUGLASS, W. J., Engineer of Bridges of the District of Columbia, has been directed by the Commissioners to make trips of inspection about four times each month to two plants in Philadelphia, Pa., where the fabrication of the structural material for the new K Street bridge and the railing of the Connecticut avenue bridge is being prosecuted, the Board being of the opinion that the inspecting can be more economically and efficiently done by the Engineer of Bridges than by employing an inspecting engineer, as has been the custom.

FREDERICK, W. H., of Bethlehem, Pa., has been appointed General Manager of the Ross Common Water Company, succeeding T. O. Cole, who has accepted a position with the Seaboard Air Line.

FRENCH, DANIEL CHESTER, Sculptor, is quoted as saying that Kansas City, Mo., has made a most creditable start toward a magnificent system of parks and public breathing places. Statuary, as works of art, are very desirable in parks, he said, if they are of the right sort; but better none than poor examples.

HILL, CHARLES E., a member of the police force of Pawtucket, R. I., has been made Deputy Chief of the Department, a newly-created office.

JACOBS, CHARLES M., of New York City, who designed the Pennsylvania Railroad tunnels under the North and East rivers, has been retained by the French Government to prepare plans for a tunnel a mile in length, under the river Seine from Rouen to Havre, which will cost \$10,000,000 to \$11,000,000.

JONES, JOHN S., a veteran fireman of Westport, Conn., and Secretary of the State Firemen's Association, passed away recently.

KEANY, DR. FRANCIS J., has been appointed dermatologist for the Board of Health of Boston, Mass., an office recently created.

LYNCH, THOMAS J., of South Bethlehem, Pa., Executive Clerk in the Governor's office at Harrisburg, Pa., has been appointed a member of the State Water Supply Commission at a salary of \$3,000 per annum, succeeding John F. Whitworth, of Kitanine.

MCGRAY, WILLIAM A., has been appointed Assistant Engineer by the Sewerage Commission of Baltimore, Md.

PECK, MYRON H., is head of the Pure Water Commission of Batavia, N. Y., which will select an engineer and arrange for a potable water supply and the construction of a sewerage system.

QUARTERMAN, D. S., has been elected Superintendent of Waterworks at Valdesta, Ga., succeeding Dana Griffin, who was in charge of the plant since its installation, eleven years ago.

ROBERTS, WALTER, has been elected President of the Alexandria Water Company of Alexandria, Va.; George Uhler, Secretary and Treasurer; James Eveleth, Collector; Charles Power, Superintendent; and Walter Roberts, E. L. Daingerfield, G. S. French, Hubert Snowden, North Hulfish, W. F. Lambert and M. Ahern, Directors.

## Correspondence

Editor MUNICIPAL JOURNAL AND ENGINEER:

Flatiron Building, New York City.

DEAR SIR:—We shall be greatly obliged if you will kindly send us a list of all cities, so far as possible, that own and operate municipal street-repairing plants. Yours very truly,

PHILADELPHIA, PA. NATIONAL MUNICIPAL LEAGUE.

We presume that asphalt-repairing plants are meant; for repairing other kinds of paving (except bitulithic), no special plant is required other than a road roller which most cities now own, and an ordinary concrete outfit. Asphalt plants are owned by Winnipeg, Detroit, Allegheny, Pittsburg, Montreal, New Orleans, Kansas City, and Newark, N. J.—EDITOR.

MUNICIPAL JOURNAL AND ENGINEER.

Flatiron Building, New York.

Gentlemen:—We would be greatly obliged if you can refer us to some practical work on road building in a State like Missouri, whose roads are to a great extent in a primitive condition, and the improvement of which is to be on the plane of new States, and not that of the expensive character incident to the older States of the Northeast.

T. W. H.

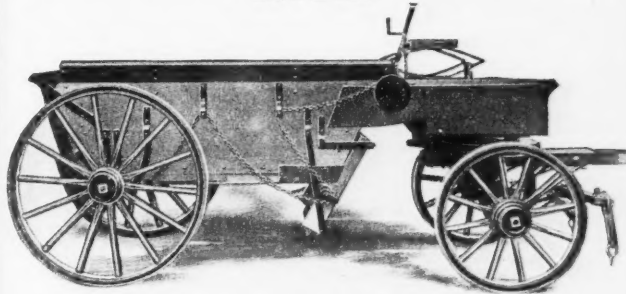
Text books on this subject are Baker's "Treatise on Roads and Pavements"; Byrne's "Treatise on Highway Construction"; Gillette's "Economics of Road Construction." A great deal of valuable information can be found in the bulletins of the various

State Highway Commissions. The Illinois Highway Commission has recently issued a bulletin on "The Earth Road Drag." The annual reports of the Commissioner of Public Roads of New Jersey, of the Massachusetts Highway Commission, of the Maryland Geological Survey, and of the Geological Survey of Georgia contain much of interest. Possibly the most valuable reports, however, are the bulletins of the United States Department of Agriculture, office of Road Inquiry; and we recommend that you apply to this department for such bulletins as they have issued on country road construction.

EDITOR.

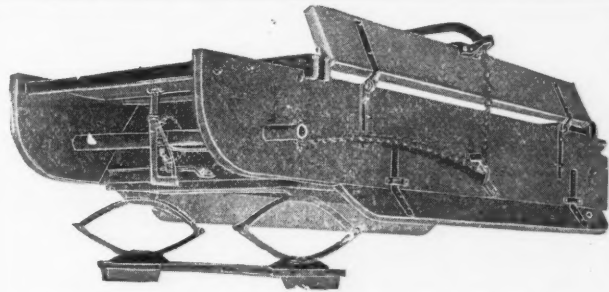
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It is guaranteed. If it stands up and does its work, it is yours; if it does not, it is ours.



Send for Catalogue giving detailed description.

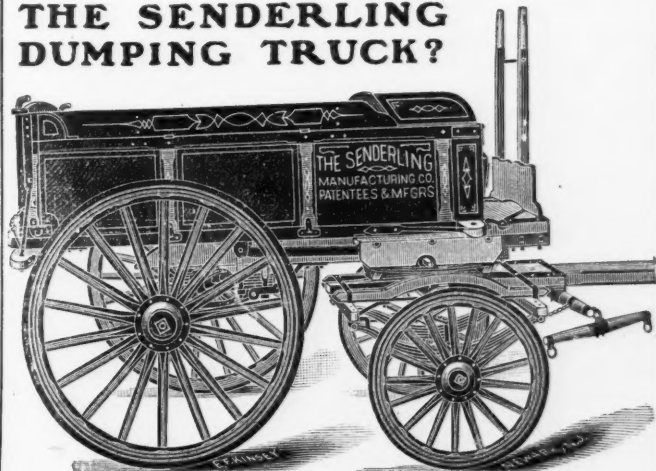
HENRY M. GLEN WAGON CO., 32 to 40 Oak Street, Seneca Falls, N. Y.



This dump-box fits any gear wagon. Is operated entirely with the foot. Endorsed by contractors everywhere. Its many good features will be explained upon application.

EVERETT MFG. CO., 44 Lake St., Newark, N. Y.

## Are You Familiar with THE SENDERLING DUMPING TRUCK?



SEND FOR DESCRIPTIVE MATTER

The Senderling Mfg. Co.

622 West 47th Street, New York City

## TRADE NOTES

**CHLORIDE ACCUMULATORS.**—The Electric Storage Battery Company, Allegheny avenue and Nineteenth street, Philadelphia, Pa., in Bulletin 101, describes and illustrates the chloride accumulator installation of the Columbus Railway and Light Company, Columbus, Ohio. This company was one of the first large companies to install a storage battery, and since then has increased its equipment several times over.

**OVERHEAD TRAMWAYS.**—Cameron & Co., Glenmore avenue and Berriman street, Brooklyn, issue a catalogue describing their overhead tramway, together with some special devices designed to go with their system of transportation. The track is made of round-edged flat steel, and the trolley which runs on it is provided with ball bearings. The trolley may carry a chain hoist, both built in one frame, making it specially adapted for places where head-room space is limited. A trolley is manufactured to travel on an I-beam, where heavy loads weighing up to ten tons may be handled. Some interesting illustrations are given of installations in the public school buildings of New York City, where the system is used for handling ashes.

**PIPE AND FITTINGS.**—The Central Foundry Company, 116 Nassau street, New York City, has recently published the "Catalogue and Price List B," describing and illustrating cast-iron soil pipe and fittings, plumbers' iron work, service boxes, valve boxes and miscellaneous castings. These are all made in standard medium and extra heavy sizes. An excellent line of roadway valve boxes are of interest to municipal authorities. For use on deep pipes, extensive pieces are made in three sections. Round or square heads are made, the former perhaps showing wear less quickly, and the latter permitting a neater finish with an asphalt or block pavement. The "Phoenix" patent frost-proof boxes for gas or water mains seem to be carefully and substantially designed. This company operates ore mines at Bibbville, Vance, Woodstock and Giles, Alabama; foundries at Newark, N. J.; Vincennes, Ind.; Baltimore, Md.; Medina, N. Y.; Anniston, Ala.; Bessemer, Ala.; Lansdale, Pa., and South Pittsburg, Tenn.; furnaces at Holt, Ala.; coal mines at Kellerman, Ala., and coke ovens at Holt, Ala.

**STEEL SHEET PILING.**—The United States Steel Piling Company, 135 Adams street, Chicago, Ill., issues a catalogue, in which are illustrations of some interesting engineering work, in which its piling has been used, such for example as the permanent elevator shaft at the passenger entrance of the Hudson River Tunnel, Jersey City. This piling is made in widths over all of from 6 $\frac{5}{8}$  to 13 $\frac{1}{4}$  inches; one end is rolled in the shape of a socket running the length of the pile, the other edge is finished with a socket. The ball of one pile fits into the socket of the next so as to make a water-tight joint. In temporary work the piles may be used more than once; in this case a special driving cap or follower is used.

**WAGON WORKS.**—The Eagle Wagon Works, Auburn, N. Y., moved from Syracuse last July, but found its facilities insufficient for its growing business; accordingly, the works built two years ago by the Auburn Hame Company were purchased. The building is fully equipped with conveniences for handling raw material as well as manufactured goods. Overhead sprinklers, fire engines and other apparatus have been installed. The building is of brick, 365 feet long, 85 feet wide, and two stories high; besides, there is a shipping shed 190x29 feet. Five acres of land are included in the property, and a railway siding provides shipping facilities.

## VITRIFIED PAVING BRICK AND BLOCK



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and  
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LET US FIGURE  
WITH YOU

THE UNITED BRICK COMPANY  
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Four-way adjustable street signs with reinforced steel tube posts and sheet metal perforated signs

These signs are indestructible by the elements, do not rust or corrode, and can be read from a long distance and at any angle you approach them. Adjustable to the intersections, will carry as many signs as are needed for additional intersections. Write for catalogue. We contract with municipalities for signs and house numbering.

AGENTS WANTED in EVERY STATE in the UNITED STATES to REPRESENT OUR LINE. Send for Catalogue.

Perforated house numbers in any finish a specialty  
THE AMERICAN STREET SIGN CO.  
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## LEAD WOOL

**Lead Wool** is composed of pure lead threaded in long fibers and is applied dry.

LEAD WOOL is calked from yarn up, perfectly tight against spigot and hub.

JOINTS may be made up UNDERWATER or in WET GROUND. Not affected by bending or settling. Let us send prices and full particulars.

NEW YORK LEAD WOOL CO 93 NASSAU ST. NEW YORK.

## SANITARY STREET FLUSHING MACHINE CO.

MANUFACTURERS

CARLETON BUILDING

ST. LOUIS, U.S.A.





## PATENT CLAIMS

835,241. — Concrete Window Construction. Frank B. Gilbreth, New York, N. Y. Serial No. 259,563.

In a building construction the combination with a molded concrete window-sash, of a reinforcement therefor molded within the same, but presenting an exteriorly-exposed attached member.

835,311. — Garbage-burner. Frank E. McGur-in, Salt Lake City, Utah. Serial No. 210,647.

In a domestic garbage-burner, the combination with a casing, a burner in the lower part thereof, a hopper pivoted to said casing and arranged to rest in close proximity to said burner when in operative position, a water-tank surrounding said casing and a series of hollow bars constituting an integral part of said burner and connected to said tank whereby a circulation of water through said bars and tank is set up and the water is heated.

835,163. — Filtering Apparatus. Albert Priestman, Philadelphia, Pa. Serial No. 236,142.

A filtering-bed composed of an upper layer of fine material, such as sand, and lower layers of coarser material, said coarser material projecting above the layer of fine material in the form of walls constituting barriers to guide the liquid throughout the bed.

835,029. — Excavating Apparatus. Louis Mayer, Mankato, Minn. Serial No. 304,678.

An excavating apparatus comprising a car having four trucks pivotally connected to the truck-frame on opposite sides thereof, and dipper or scoop actuating mechanism mounted on said car, substantially as described.

834,968. — Hollow Fireproof Double-Glazed Window. Lars Christenson, New York, N. Y. Serial No. 287,412.

In a window of the character herein set forth, a sheet-metal end stile adapted to receive and hold double panes, said stile being composed of plates suitably bent and interlocked at their margins, the exterior of the stile being formed to supply a flange for entering the adjacent wall, and a top rail similarly formed to receive the double panes and provided on its exterior with a projecting flange for entering the adjacent wall, the parts being combined and arranged substantially as explained.

## Civil Service Examinations

**Civil Engineer.**—The United States Civil Service Commission announces an examination January 3-4, 1907, to secure eligibles to fill vacancies in the position of civil engineer in the Philippine Service at \$1,400. Apply to the U. S. Civil Service Commission, Washington, D. C., or to the Secretary of any Board of Examiners for application forms 2 and 375.

**Draughtsman.**—The United States Civil Service Commission announces an examination January 9-10, 1907, to fill a vacancy in the position of topographic and cartographic draughtsman, at a salary of \$1,000 per annum. Apply to the U. S. Civil Service Commission, Washington, D. C., or to the Secretary of any Board of Examiners for application Form 1312.

**Surveyor.**—Philippine Service.—The United States Civil Service Commission announces an examination on December 27-28, 1906, to secure eligibles to fill vacancies in the position of Surveyor at \$1,400 per annum in the Philippine Service. Apply to the U. S. Civil Service Commission, Washington, D. C., or to the Secretary of any Board of Examiners for application forms 2 and 375.

## Proposals

## Paving

Amityville, N. Y.

Sealed proposals will be received until January 7th, 1907, by the Board of Trustees of the Village of Amityville, N. Y., for macadamizing and otherwise improving Broadway from Albany avenue, southerly to Avon place, and Park avenue, from Broadway, southerly to Ireland place. Details of proposals, plans and specifications can be had on application to Charles W. Darling, Village Engineer, Amityville, N. Y., or to W. B. Inglee, Village Clerk, Amityville, N. Y., or to E. P. Foster, Village President, 132 Nassau street, New York City.

The Board of Trustees reserve the right to reject any or all bids or to increase or diminish the amount of work to be done.

By order of the Board of Trustees,

W. B. INGLEE,

Clerk of the Village of Amityville, N. Y.  
Dated December 1st, 1906.

## Storm Water Sewer

Office of the City Clerk,

Wichita, Kansas, December 7, 1906.

Sealed proposals will be received at this office until 5 o'clock P.M., January 21, 1907, for the construction of the Wichita storm water sewer, No. 5.

The approximate amount of labor and material necessary for the construction of the above sewer will be mailed to bidders on application to this office. The estimated cost of the above sewer is \$318,000. All work necessary for the construction of the above sewer to be done under the direction and supervision of the City Engineer of the City of Wichita, and according to plans and specifications on file in his office. Bidders will be required to enclose certified check in the sum equal to 5 per cent. of the amount bid, as a guarantee of good faith. Bidders will be allowed to bid on the entire system or any part thereof. The Mayor and Council reserve the right to reject any and all bids.

R. N. DORR, City Clerk.

## Bridge

Newport, Ind.

Notice is hereby given that the Board of Commissioners of Vermillion County, Indiana, will receive sealed bids at the office of the Auditor of said county, at Newport, Indiana, up to the hour of 10 o'clock A.M., on the 15th day of December, 1906, for the construction of the substructure for a highway bridge across the Wabash River near Newport, Indiana.

The said substructure to be constructed in compliance with the plans and specifications for the same, now on file in the said Auditor's office.

All bids must be accompanied by a good and sufficient bond as required by the statute, to be approved by the Board of Commissioners.

Blank bids and bonds may be had from the Auditor of said county.

By order of the Board of Commissioners of Vermillion County, Indiana.

W. T. SANDERS,

ALLEN FRAZER,

GEO. B. TILLOTSON,

Vermillion County Commissioners.

H. T. PAYNE, Auditor.

**THE CLEARFIELD CLAY WORKING CO.**

Manufacturers of  
"CLEARFIELD VITRIFIED  
PAVING BLOCK"

Vitrified Brick of all kinds

**CLEARFIELD, PENNA.**

**FLAT FLAME GAS LAMPS**

Giving from 10 to 25 candle-power can be increased to from  
40 to 70 CANDLEPOWER  
by the use of our attachment

**CENTURY LIGHT & POWER CO.**  
35 Warren St., N. Y. City

## State Rights For Sale

OF

**Pratt Patent Automatic  
and Self Cleaning  
Sewer Inlet**

PENNSYLVANIA RESERVED

W. J. SHELDON,

McKeesport, Pa.

## Crematory or Refuse Destroyer

Office of the President of the Borough of Richmond, Borough Hall, St. George, New Brighton, New York City.

Sealed bids or estimates will be received by the President of the Borough of Richmond at the above office until 12 o'clock m., on Thursday, December 27, 1906, Borough of Richmond.

No. 1. For furnishing plans for the foundations, building, runway, connecting flues and chimney of a refuse destructor to be built at West New Brighton, in addition to furnishing all plans, specifications, supervision, labor, materials and appurtenances necessary for the erection and completion of the furnace and steam boiler portion of the proposed West New Brighton destructor at West New Brighton, Borough of Richmond, the City of New York, U. S. A.

For full particulars, see "City Record."

GEORGE CROMWELL,

President.

The City of New York, November 16, 1906.

**LEADITE**

THE BEST PIPE JOINTING MATERIAL  
FOR WATER AND GAS MAINS, ETC.

NO CAULKING REQUIRED. COST LESS THAN  
ONE-THIRD THE COST OF LEAD. ONE TON  
WILL DO MORE WORK THAN FIVE TONS OF  
LEAD. JOINTS WILL NEVER LEAK. IN USE  
11-12 YEARS IN PHILADELPHIA, PA. NOW  
ADOPTED BY WATER DEPARTMENT. IN USE  
IN MANY CITIES.

WRITE FOR PAMPHLET, PRICES, ETC.

**THE LEADITE COMPANY OF AMERICA**  
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TRADE MARK  
**CAST IRON PIPE**  
QUALITY BEFORE QUANTITY

"CINDER IRON or  
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of METAL" referred to in  
all Cast Iron Pipe specifica-  
tions are produced by Pud-  
ding Mills, Rolling Mills,  
etc., in the form of "Scrap."

There are none of these  
MILLS within hundreds of miles of us, but a dozen or more BLAST FURNACES,  
which, in the words of one of the most eminent metallurgists of our country, "yield foundry  
iron of unusual excellence and wide reputation," are located right in our "back yard."

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IN USE IN MUNICIPAL, COUNTY, STATE AND FEDERAL BUILDINGS THROUGHOUT THE COUNTRY, BEING EXPLICITLY AUTHORIZED BY THE POST OFFICE DEPARTMENT UNDER PROVISION OF A SPECIAL ACT OF CONGRESS. AS A PART OF THE POSTAL SYSTEM IT IS AVAILABLE FOR THE SERVICE OF SUCH PAPERS AS MAY BE LEGALLY SERVED THROUGH THE MAILS.



MODEL C, OPEN

WHERE THE STANDARD AUTHORIZED MAIL CHUTE EQUIPMENT IS DESIRED, THE CUTLER MAILING SYSTEM SHOULD BE SPECIFIED BY NAME.

DESIGNATE "MODEL C" IF THE VERY LATEST AND BEST FORM AS ILLUSTRATED HEREWITH IS REQUIRED. INTERIOR UNDER GOVERNMENT LOCK BUT INSTANTLY ACCESSIBLE TO AUTHORIZED PERSONS.

INSTALLED IN CONNECTION WITH THE U. S. FREE COLLECTION SERVICE ONLY BY THE SOLE MAKERS AND PATENTEES.

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GENERAL OFFICES, CUTLER BUILDINGS, ROCHESTER, N. Y.

## FACTORY AND INVESTMENT LOCATIONS.

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The territory reached by the

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**Mobile & Ohio Railroad**

is unequaled anywhere in its advantages for factory locations.

The development of this territory is remarkable. In the last three years investments have been nearly \$300,000,000. There are special advantages in the way of cheap living and pleasant surroundings for employees. There are the largest hardwood forests in America, a vast area of coal and iron ore, splendid water powers, rail and water transportation to all sections, growing home markets.

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Publications and special information sent and aid given in finding the location desired. Address the nearest office.

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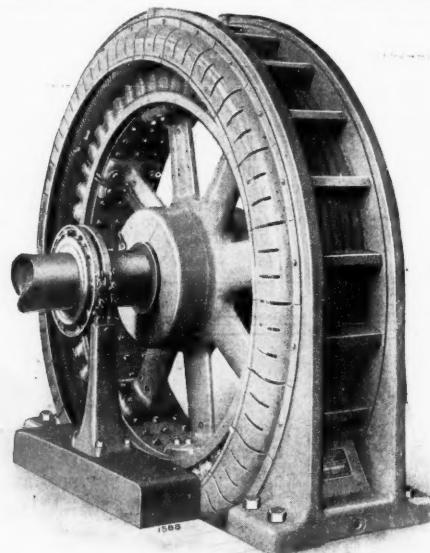
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for lighting or power plants are an economical investment. They have a higher Efficiency—that's why. But they have always been so—they keep their good name up. We can't tell the whole story here, so write us for further information.



Type TRE, 48 Pole, 420 Kw., 100 R.P.M. 600 Volt, Three Phase Alternator.

**Fort Wayne Electric Works,**  
Fort Wayne, Indiana